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Original Articles.

THE IMPROVEMENT OF GENERAL ANESTHESIA ON THE BASIS OF SCHLEICH'S PRINCIPLES:

WITH SPECIAL REFERENCE TO ANESTHOL.

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In the writer's previous paper[1] on this subject the principal points brought out were the following:

Ether as well as chloroform are poisonous substances. We probably do not go wrong in assuming that one out of every 10,000 patients dies while under the influence of ether and one out of every 2,000 while under that of chloroform. This estimate refers only to cases succumbing on the operating table. Thus there surely is a certain amount of risk involved in every case of general anesthesia, although the exact extent of same can not be determined beforehand in the individual case.

It is this element of uncertainty as to the fate of the patient to be narcotized that has prompted many medical men, since the discovery of cocain, to discard general anesthesia as far as possible and try to get along with local cocain anesthesia. Although in the hands of an expert even major operations can be performed with the help of local (infiltration) or regional anesthesia, it nevertheless remains a fact that general narcosis can not be abolished entirely; there are and always will be many surgical interventions that can be carried out only with the patient under general anesthesia. Can the risk, which the individual patient runs in undergoing general anesthesia, be diminished?

The efforts of medical men and chemists heretofore have been directed toward finding a new, less dangerous narcotic substance as well as toward improving the chemical condition of the known anesthetics by aiming to obtain them in an absolutely chemically pure state.

SCHLEICH'S REASONING.

Schleich conducted his investigations on entirely new lines, namely, by starting from a physical instead of from a chemical basis. His reasoning,[2] based on experimental studies on animals, is briefly as follows: The amount of a narcotic substance that evaporates in a given time—barometric pressure being equal—depends on two factors:

1. The surrounding temperature, that is to say, in connection with general anesthesia: the temperature within the lungs or within the body (T. B.[3]). This is rather constant, about 100.4 F.

2. The boiling point of the narcotic (B. P.[3]), or, as one might also term it, its maximum of evaporation.

Both of these factors greatly influence the absorption into the blood as well as the elimination from it of an anesthetic introduced into the human or animal body. If a person or animal inhales an anesthetic that has its B. P. at 59 F. (15 C.), as, for instance, ethyl chlorid, it is obvious that more of the drug quantitatively is introduced into the lungs, and through these into the blood, than would be of an anesthetic that has its B. P. at 149 F. (65 C.), as has for instance chloroform.

The ability of the organism to eliminate the narcotic is increased in the measure as the B. P. of the narcotic corresponds to the T. B., provided this relation be not disturbed by a momentary firmer chemical combination. This relation can be well studied with the narcotics mostly in use to-day, i. e., ether, chloroform and ethylbromid. As experience has proved, their chemical combination is generally volatile and loose.

If the B. P. of the narcotic corresponds to or approaches the T. B., the lungs alone are capable of properly regulating the elimination of a gaseous poison. By their increased action they can prevent the accumulation and retention of directly fatal doses; exactly as much of the narcotic is exhaled during expiration as was inhaled during inspiration. This explains the fact that a deep narcosis can not be produced at all if the B. P. of the narcotic and the T. B. correspond.

If, however, the B. P. of the narcotic is considerably higher than the T. B., as is the case with chloroform, namely, 149 F., more is retained during inspiration than is eliminated during expiration. Only so much of the amount as was retained by the blood corpuscles and blood serum can be eliminated with each expiration as corresponds to the B. P. of chloroform at the temperature within the lungs, namely, 100.4 F. The superamount can not be eliminated by the lungs, physically. This must be done somewhere else within the system. Other parenchymatous organs must be called into action, i. e., heart, kidneys and liver. This explains why the after-effects on those organs are so much more pronounced after the administration of chloroform than after that of ether. It also accounts for the fact that we find no lesions within the lungs, but rather in the other parenchymatous organs of a person who died under chloroform.

In distinct contrast to these findings we notice the greatest amount of damage in the pulmonary paren-

1. Read Dec. 27, 1897, before the Medical Society of the County of New York, entitled: "The Improvement of General Anesthesia by Adapting the Boiling Point of the Narcotic to the Temperature of the Body (Schleich)."

2. Schmerzlose Operationen, II Aufl., Berlin, 1897.

3. In the following résumé of Schleich's paper temperature of the body will be indicated by T. B., and boiling point by B. P.

chyma of the lungs following the administration of sulphuric ether. Sulphuric ether, having a B. P. at 93.2 F. (34 C.) fills the alveoli of the lungs, and at their temperature of 100.4 F. must expand and thus distend the alveoli and oppose an abnormal intra-alveolar pressure to the elimination of carbonic acid gas from the blood. It is thus that the inhalation of ether disturbs respiration and immediately causes a certain degree of cyanosis. This initial cyanosis is, therefore, the consequence of retention in the blood of carbonic acid gas. Further consequences of this retention are: reflex salivation and secretion of mucus, stretching of the alveolar epithelial cells, and, in direct connection therewith, the frequent occurrence of secondary pneumonic infiltrations. The alveolar cells, when under such abnormal pressure, are not able to overcome the effects of inflammatory material which may have become aspirated. They can do so under ordinary conditions by their normal vital resistance (Nauwerck).

However, the disturbance in the intrapulmonary diffusion of gases gradually becomes regulated. The partial pressure of the carbonic acid accumulating within the blood gradually reaches and partially overcomes the tension of the ether vapors within the alveoli sufficiently to permit its escape from the blood into the same. The cyanosis disappears with the initial carbonic acid asphyxia and the true ether narcosis begins. But the carbonic acid within the alveoli still encounters an abnormal resistance from the ether which is constantly pouring into the lungs. The complete escape of carbonic acid gas in expiration is, therefore, obstructed. The gas gradually accumulates in the lung parenchyma and at a certain tension its intra-alveolar pressure helps to force the ether into the blood. It is this gradual increase of the pressure of the carbonic acid gas within the lungs that enables the blood to retain a certain amount of ether. Although elimination of ether is almost equal to its absorption, it is the slight excess that remains in the blood which suffices to affect the brain and produce unconsciousness. The greatly accelerated rhythm of breathing, which increases the amount of oxygen entering the blood, facilitates the elimination of carbonic acid by the laws of diffusion of gases involved in normal respiration. Incidentally the elimination of ether is also facilitated. For this reason death from ether on the operating table is almost impossible as long as respiration is efficient.

On the other hand, all these processes just described account for the fact that ether narcosis sometimes has such deleterious effects on patients suffering from lung trouble. The primary and only condition for the regular elimination of the ether vapors is an absolutely intact lung—a lung that is able, if necessary, to do more than the usual amount of work.[4]

To sum up: Schleich believes that it is only on account of its high B. P. that chloroform, when administered for narcosis, is absorbed by the blood to a greater extent than is needed for the purpose. It, moreover, leaves the organism only by degrees. In doing so it overtaxes all the parenchymatous organs, thereby injuring their cells. Ether, on the other hand, with its B. P. at 93.2 F. (34 C.), is converted into vapor so rapidly when inhaled into the lungs with their temperature of 100.4 F., that it would not enter the blood at all—loosely bound as it is—if the alveoli did not first become overfilled with carbonic acid gas, producing primary cyanosis and dyspnea. It is with the help of this cyanotic attack that, it seems, the narcotic effect of the sulphuric ether begins.

4. Whether this physical reasoning of Schleich is correct *in all its details*, I do not propose to discuss here.

ANESTHETIC MIXTURE.

Being personally convinced of the correctness of these deductions, supported as they were by the results of his experiments on animals, Schleich started his research for the purpose of finding a narcotic, the B. P. of which would correspond to the T. B. That is to say, he wanted to find a safe and inexpensive narcotic of which the amount eliminated during expiration would almost equal that absorbed during the previous inspiration. If this could be accomplished, such new narcotic substance would not—Schleich felt confident—share the annoying effects of ether and chloroform when administered alone, nor the many dangers involved as regards the patient. Such new anesthetic could be found in a mixture only.

The use of mixtures of ethereal substances for general anesthesia is nothing new in the history of anesthetics. Thus the English have had their A.C.E. mixture of world-wide fame for the last thirty-three years. At Vienna a mixture of one part of chloroform and six parts of ether has been used so extensively as to be known for a long time as "the Vienna mixture." The late Professor Billroth of Vienna used a mixture of one part of ether and alcohol each and three parts of chloroform. These mixtures were liked and praised by many; they were absolutely denounced as ineffective, dangerous, etc., by others. Kocher of Bern stated that he never permitted the use of the latter mixture in his clinic, because he was sure that in administering it to patients a small quantity of chloroform, of ether and of alcohol would be absorbed. He declared himself opposed to mixing narcotics. In an article by an American writer[5] we find the following words: "Against such mixtures the argument has always been urged that a new chemical is not thus made with a single rate of diffusion; and that, while the rate of relative evaporation is doubtless in part modified by the mixture, the patient substantially gets first ether, then chloroform, then alcohol, in order of volatility. The writer agrees with the majority of authors in feeling that a gain in security is not made thereby. 'Straight drinks' are the safest, to speak after the manner of the world."

Correct as this may seem theoretically, in practice mixtures have proved safer than ether or chloroform alone. Our English colleagues have reported 15,000 cases of major anesthesia with the A.C.E. mixture without a single death. It is also stated from Vienna that there have been 8,000 administrations of the Vienna mixture without a death. The reason for the greater safety of the so-called mixtures, according to Schleich's investigations, consists in the fact that they are chemical solutions—not mixtures—having a new B. P. different from that of any of the components. Thus the B. P. of the A.C.E. mixture is about 119 F. (49 C.), certainly a good deal nearer the T. B. than chloroform, with its B. P. at 149 F. (65 C.). Schleich was the first to make this assertion.

SCHLEICH'S EXPERIMENTS WITH MIXTURES.

On the basis of this conviction, Schleich experimented with different ethereal substances with a view to finding a mixture the B. P. of which would correspond to the T. B. After considerable experimenting he at last selected ether, chloroform and petrolic ether (that is, benzine). The latter's action, as Schleich maintains, is indifferent, as far as its narcotizing effect is concerned.

5. R. H. M. Dawbarn: General Considerations on Major Anesthesia, etc., New York Polyclinic, April and June, 1897; Atlanta Medical and Surg. Journal, August, September and October, 1897.

It is used for the purpose of diluting the chloroform, that is to say, for the purpose of diminishing the latter's poisonous effects on the system. In order to be effective it must have its B. P. almost equal to that of chloroform, about 149 F. (60-65 C.). Schleich makes the following postulates:

1. By so mixing various ethereal substances the resulting fluid is a real solution in a chemical sense;[6] a new fluid, a new narcotic, if you so wish, and not a mixture of different ethereal substances which evaporate each, individually.

2. By changing the proportion of the components we can change the B. P. of the solution at will, according to necessity arising in a given case. We can thus individualize, i. e., we can in a given case adapt the B. P. of the narcotic to the T. B. as the thermometer may have shown before operation.

3. These facts hold good and are verified in regard to cold-blooded as well as warm-blooded animals. Frogs and crabs did not react differently from doves, rabbits and cats with reference to an anesthetic, the B. P. of which did not correspond to the T. B.

4. The result is the same, no matter whether the solution be inhaled, given per rectum or injected subcutaneously.

5. In administering the solution to the human subject the results are exactly the same as those observed in animals.

The possibility of changing the B. P. of the new anesthetic mixtures at will induced Schleich to recommend three different mixtures, their proportion to be based on the facts mentioned above: that the higher the B. P. of a narcotic the slower will be the process of elimination from the system. Schleich thus made three standard mixtures of the following composition, prepared by volume, not by weight:

Chloroform	45 cc.=1½ oz.	45 cc.=1½ oz.	30 cc.= 1 oz.
Sulphuric ether.	180 cc.=6 ozs.	150 cc.=5 ozs.	80 cc.=2 2/3 ozs.
Petrolic ether...	15 cc.= ½ oz.	15 cc.= ½ oz.	15 cc.= ½ oz.

THE AUTHOR'S EXPERIENCE WITH PETROLIC ETHER.

The paper comprising the foregoing points, also my clinical observations made with Schleich's original mixtures in 100 cases, and read before the Medical Society of the County of New York on Dec. 27, 1897, never appeared in print. A rather extensive report of the same, however, can be found in the New York Medical Record, Jan. 8, 1898, furnished by one of the reporters of that journal, who had been present at the meeting. The reason for my not publishing the paper I will briefly mention here:

Schleich's mixtures, as just stated, contain chloroform, ether and petrolic ether, the latter being benzine with a B. P. of 60-65 F. (15-18 C.). Petrolic ether being a substance which I had never heard of as possessing anesthetic properties, I asked Dr. S. J. Meltzer of this city, the well-known physiologist, a few weeks before I presented the above-mentioned paper, to oblige me by making some animal experiments in order to ascertain the action of this agent on the animal organism. In a letter received from Dr. Meltzer,[7] under date of April 13, 1898, he stated: "According to my experiments petrolic ether, as used in Schleich's mixtures, if administered pure, has no narcotizing effect at all, but produces in rabbits and guinea-pigs convulsions, soon followed by tetanus and opisthotonus; if the inhalation be continued the animals die with symptoms of tetanus. If petrolic ether is administered in combination with sulphuric ether, the resulting paralysis remains unchanged. The conclusion seems justified that if this mixed narcosis were extended the animals would most probably die of paralysis of the respiratory muscles."

Petrolic ether, as stated by Schleich, was added in order to reduce the effect of the chloroform in the mixtures "for the purpose of dilution." The small amount of petrolic ether in these mixtures—1/16 to 1/8 per cent. of the entire volume—explains, it seems to me, why those who had employed Schleich's anesthetic mixtures did not meet with deplorable accidents in some of their patients.

Shortly before I received Dr. Meltzer's communication, my friend, H. P. Weidig, Ph.D., of Newark, N. J., an expert chemist, found, on analyzing these mixtures, that they contain a permanent nucleus—a chemical combination of chloroform and ether according to their molecular weight. Chloroform has a molecular weight of 119.5; sulphuric ether, 74. Thus, 119.5 grams of chemically pure chloroform and 74 grams of absolute sulphuric ether, or, expressed in volume: 43.25 parts of chloroform and 56.75 parts of ether mixed together, enter into chemical combination, which truly represents a new anesthetic. It contains neither free ether nor free chloroform and has a B. P. of its own at 125.6 F. (52 C.). We called this product "molecular solution" (of chloroform and ether), or abbreviated, "M.S."

I would emphasize that this finding of Dr. Weidig's of a true chemical combination of chloroform and ether according to their molecular weight, constitutes a hitherto unknown chemical fact, as it seems, a fact which I consider to be of great practical importance.[8]

Schleich's mixtures, according to Dr. Weidig's investigations, contain this fixed molecular solution of chloroform and ether (M.S.) plus 36 to 53 per cent. (in volume) of free ether, plus petrolic ether, the latter most probably not in chemical combination. Therefore, our patients when subjected to general anesthesia by means of Schleich's mixtures, in the beginning of the narcosis inhale pure ether plus M.S. plus petrolic ether. As soon as the ether and petrolic ether, which are not in chemical combination, have evaporated—and this will probably soon be the case—the narcosis continues with M.S. In other words, in the administration of Schleich's mixtures the anesthetic was adapted to the temperature of the body at the beginning of the narcosis only; soon after the latter was continued with one of a higher B. P., 125.6 F. (52 C.).

THE ABANDONMENT OF PETROLIC ETHER.

These physiologic and chemical facts, established through our efforts here in New York, convinced me of the inadvisability of continuing the Schleich's mixtures for purposes of general anesthesia, and prompted me to withhold from publication the paper I had read on the subject—a paper which had been written for the sole purpose of bringing before the profession the supposed advantages of Schleich's mixtures. On Dec. 27, 1897, I proclaimed these mixtures, on a basis of my personal clinical experience, before a large audience of medical men as "having come to stay," and now, three months later, in view of these absolutely unexpected revelations, I felt in duty bound to abandon their use!

6. This is not in accordance with the result of the chemical analysis made by Dr. H. P. Weidig, which see later.

7. Conf. author, N. Y. Med. Rec., 1898, p. 607, "Schleich's Mixtures for General Anesthesia."

8. It is not claimed, that ether and chloroform form a new body, such as, for instance, acetone and chloroform do. The term "chemical combination" is, used in the sense that the two components, chloroform and ether, dissolved in each other in molecular proportion, will resist fractioning by distillation to the last, i. e., this molecular solution of chloroform and ether has an evaporating point of its own.

However, I parted from them with sincere regret, for I had been charmed with their effect. During sixteen weeks of continuous use in my surgical work in private and hospital practice the narcoses with these mixtures had been so uniformly good that I was convinced that the improvement in general anesthesia, so much sought after, especially in regard to our daily practice, would have to be looked for principally in the direction of physical improvement of general anesthesia rather than in the chemical improvement of anesthetics. I therefore determined to try to find a mixture that would contain neither petrolic ether nor free ether, and yet have a boiling point corresponding to the temperature of the human body.

It was due to the invaluable and continued assistance of Dr. Weidig that I was enabled to successfully pursue the task I had set for myself. During the time of experimentation (the first part of the year 1898) I administered M.S. for general anesthesia and found it to be an excellent narcotic.[9] I might mention parenthetically that M.S. is still used by a number of surgeons at the German Hospital.[10]

THE ORIGINATION OF ANESTHOL.

As stated before, the B. P. of M.S. is 125.6 F. (52 C.). Now, if Schleich's reasoning were correct it was clear that if M.S. could be modified in such a way as to give it a B. P. at 100-104 F. (38-40 C.), such modified anesthetic—being in absolute conformity with Schleich's principles—would be still safer than M.S. and represent at the same time the logical mixture for general anesthesia. After considerable experimenting it occurred to Dr. Weidig to try the admixture of ethyl chlorid, which has a B. P. at 59 F. (15 C.) and M.S. He found that a mixture of 18 per cent. volume of ethyl chlorid plus 82 per cent. volume of M.S. has B. P. at 100.4 F. (38 C.); 17 per cent. volume of ethyl chlorid plus 83 per cent. volume M.S. has B. P. at 104 F. (40 C.); 16 per cent. volume plus 84 per cent. of ethyl chlorid volume of M.S. has a B. P. at 107.6 F. (42 C.).

Considering it unnecessary to make so fine a distinction I proposed that the first and third mixtures be dropped and the second one only be used, viz., 83 per cent. volume of M.S. plus 17 per cent., volume of ethyl chlorid, which has a B. P. at 104 F. (40 C.), thus employing one and the same mixture for all cases. Just at that time the anesthetic properties of ethyl chlorid as such were published by R. Ludwig[11] and G. Lotheissen.[12] The success and lack of accidents in the employment of pure ethyl chlorid for general anesthesia, as brought out in these articles, gave me sufficient courage to test Dr. Weidig's new mixture in the living without previously experimenting on animals. This new mixture we termed "anesthol."

THE FIRST USE OF ANESTHOL.

I used anesthol for the first time Oct. 15, 1898, in an interval operation for appendicitis. The narcosis and its sequelæ were all that could be desired, equal to the best I had seen from the use of Schleich's mixtures. Since that time I have used anesthol almost exclusively in all my operations requiring general anesthesia, in hospital as well as private practice, that is, for a period of nearly four years. The only exceptions were such operations on the face where I deemed pure chloroform preferable.

DESCRIPTION AND PROPERTIES.

Anesthol is a clear, transparent fluid of very agreeable odor; it has a sp. gr.[13] of 1045 and a B. P. at 104 F. (40 C.). It is a chemical combination of ethyl chlorid and M.S., not a mixture; for, on evaporating 1000 c.c. of anesthol for five hours at a uniform temperature of 104 F. (40 C.) 22 c.c. (2.2 per cent. volume) with a sp. gr. of 1,262, were left. The sp. gr. of chloroform is 1,490. This fact proves that up to the last moment a "solution of components" discharges and does not leave a final residual chloroform, the narcotic with the highest B. P., as is the case in Schleich's mixtures (Weidig).

The analysis with regard to the actual quantity of each of the three drugs contained in anesthol according to volume, as made by Dr. Weidig, showed that anesthol contains 17 per cent. of ethyl chlorid, 35.89 of chloroform and 47.10 per cent. of ether, representing as will be seen, a proportion of about 1:2:3. It certainly is of interest and worthy of note that the proportion of the renowned English A.C.E. mixture is the same. The latter, however, was constructed in an empiric way, while anesthol is based on scientific principles, being the result of an attempt at adapting the B. P. of an anesthetic chemical combination of chloroform and ether, M.S., to the temperature of the human body. After this had been accomplished on a strictly scientific basis the resulting new anesthetic chemical combination of ethyl chlorid, chloroform and ether (anesthol) was analyzed with the above stated result.

Any one can, of course, prepare anesthol; it is not patented. It is put up in 4, 8 and 16 ounce bottles. It can be had at the principal drug stores.[14]

(To be continued.)

9. Conf. N. Y. Med. Rec., April 23, 1899, p. 607.

10. Braun of Leipzig favors a mixed narcosis of ether and chloroform, both administered at the same time, but each individually, by means of a special apparatus, not, as we did, both at the same time in chemical solution on one mask. (Report of Congress of German Surgeons, Berlin, 1901.)

11. "Ueber Narkose mit Aethylchlorid," Beitr. z. Klin. Chir., vol. xix, p. 639, 1897.

12. Arch. f. Klin. Chir., vol. lvii, p. 865, 1898. See also: M. W. Ware, "One Thousand Personally Conducted Cases of Ethyl Chlorid Narcosis," paper read before the Section on Surgery and Anatomy, of the American Medical Association, Saratoga, 1902. THE JOURNAL A. M. A., Nov. 8, 1902, p. 1160.

13. I might state here as an interesting fact that the specific gravity of anesthol is very near that of the human blood, viz., 1,056-1,059, certainly nearer than that of any other anesthetic in use.

14. Personally, I have always procured anesthol of Messrs. Chas. Cooper & Co., 194 Worth St., New York, of which firm Dr. H. P. Weidig is a member. It is prepared under the latter's personal supervision. Its purity and correct composition are guaranteed. In order to insure results that will be of value in drawing conclusions from the observations of others, I would strongly urge that anesthol of this manufacture only be used.

SOME NOTES ON AURAL VERTIGO.*

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Aural vertigoes have attracted a great deal of attention, especially of late years, yet they constitute a very little known field of our work, while their serious inconvenience or their actual disablement of the patients render them of great practical importance. Like the matter of subjective noises in the head the causation is so multiform that each case presents a problem of considerable difficulty and demands close and discriminating study in order to locate and improve the condition. Advance in this direction has undoubtedly been made by those who have laid stress on the tympanic origin of many of these cases, except when they have ignored or belittled the other elements of etiology and have assumed, because cure has been occasionally reached by

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. Emil Mayer, C. R. Holmes and G. H. Makuen.

procedures directed to the tympanum, that no labyrinthin cases exist. "Menière's disease" as a distinct entity has certainly suffered much eclipse of late years and our views on the subject have expanded; but the narrowness of view, which would exclude it wholly from consideration as a complex of symptoms due to labyrinthin involvement, is certainly little calculated to advance the general understanding of the subject.

Especially since the grippe epidemic of the last ten years cases of labyrinthin involvement have been not infrequent, and a history such as that of the following case can leave little doubt as to the nature of the lesion. A trained nurse, 25 years of age, awoke one morning after a period of entire health to find herself too dizzy to lift her head from the pillow, falling back helpless at the effort and becoming nauseated by the rotation of everything about her. The left ear was totally deaf, without discharge, pain or other involvement. The condition grew better after some days in bed and at my first examination I found only moderate vertigo and no hearing on the affected side for any tone from the lowest to the highest. Under alterative measures she speedily recovered and was able to resume her duties. Her hearing returned for all notes of the Galton whistle (some 40,000 down to 4,000 double vibrations per second), but below this point she remained absolutely deaf to all tones and was therefore unable to hear any speech in this ear. No evidence of tympanic disease was at any time present and the lesion was probably hemorrhagic and undoubtedly in the upper turns of the cochlea.

Politzer[1] says: "For the differential diagnosis between the labyrinthin form of Menière's symptom-complex and that due to middle-ear affection, the tuning-fork tests are of importance. If the Rinne test is positive in advanced defect of hearing, the duration of perception of the fork-tone through the bone shortened, the loud watch-tick unperceived by bone conduction, while deep tones are well heard by air conduction, no doubt underlies the diagnosis of a labyrinthin affection."

It is in these labyrinthin cases that our testing of hearing by tuning forks and other methods must be complete and precise, and in these, therefore, the limitations and uncertainties of these tests will come most conspicuously to notice. The tuning forks may elicit contradictory and valueless responses from our patients and show the fallibility common to subjective tests; yet the judicious employment of a sufficient variety of tones should bring the matter fairly within the control of the examiner and explain or eliminate many of the contradictions. Those who have employed but a single fork and endeavored thereby to discriminate between tympanic and labyrinthin affections are generally confessedly unable to afford us any clear criteria for their views, which they claim empirically to have verified; but this must not discourage us from the more thorough study of the range of hearing and the relation of sound conduction by air and by bone as a means of learning the truth in these matters and better deciding our lines of treatment.

The severe cases of aural vertigo are certainly rare and the number seen even in extensive practice will always form but a poor basis for any sweeping dicta as to the general subject; and the differences which are encountered by different men will always present illustrations of the two sides of the shield and the importance of the point of view of the observer. It will fairly define my own position if I say that in the past ten years I have been seeking cases suitable for relief by intratympanic operation, and in upward of a hundred cases have met but a single one in which I could feel justified in operation for the relief of pressure on the stapes, and this in a woman of utterly neurasthenic type, who was notably relieved at first by catheter inflation. She has been anything but a brilliant example of the benefits of operative treatment, and would probably have been as much helped by the anchoring of her floating kidney as she claims to have been only after months by the operation on the incus. In the great majority of the cases of vertigo which have come under my observation neurotic and general vasomotor influences have seemed largely at fault for the symptom, except in the considerable group in whom the catarrhal affection of the eustachian tubes and tympanum was so clearly at fault that treatment by the catheter directed to this condition could be fairly expected to give the relief which was obtained.

In the neurotic individual benefit by the catheter may be at first also notable; but the strain of its employment tells unfavorably on their impaired physique, and continuance of the procedure is unwise or detrimental. Its influence must, therefore, be considered similar to that of any impressive measure whether operative or not, and to whatsoever part directed, and is ascribable more to emotional shock than to any physical or physiologic change of relations.

It is as to the third group of generalized vasomotor conditions that I feel that I may offer some suggestions rather constructive than destructive. Some of these cases present a nearly typical Menière attack, with tinnitus, vertigo, deafness and unconsciousness; but some of the worst instances lack one or the other of the most characteristic elements and the impression has a transitory character, which excludes all probability of notable physical change. Even the serous exudation into the labyrinthin structures, which Gruber has urged as the causation of many aural vertigoes, can hardly be assumed for conditions which are so sudden in onset and so immediate in recovery; and the perfect hearing which persists in some of these cases, although the attack is severe enough to fell them as though struck by a hammer, raises the question as to whether the lesion is not wholly central. Its vasomotor causation is rarely in doubt and moderate arteriosclerosis is fairly discernible in most of these cases. The therapeutic test well bears out this view of their etiology, and medicaments directed to improve the vascular condition, the iodids and other absorbents, strychnia, quinia and other vascular tonics, but especially the adrenal extract, have given me a notable gain in many of these cases which had proven stumbling blocks to previous attendants. Combination of the various elements is to be expected in many cases, and our therapeusis and regimen must be judiciously directed to the needs of the individual; but I desire particularly to direct attention to the value of adrenalin for the forstalling of these attacks and building up of that self-confidence which is often so seriously impaired in the subject of such a disorder. It is needless to go into any disquisition on the physiologic effect of this potent addition to our remedies, nor is it needful to point out its usual antagonism to nitroglycerin and the need for tentatively employing these opposed medicaments quite empirically in some instances. Yet it may be generally laid down that in the cases of marked vertigo of transient and otherwise undeterminable causation the adrenal may be expected to steady the circulation of the premonitory phase of the

1. Text-Book, Fourth Ed., p. 601.

trouble and prevent the occurrence or greatly abate the severity of the vertiginous attack. Its cautious employment for this tonic as well as prophylactic effect has been most happy in a number of cases which had yielded to no other line of treatment and in some of which the experimental use of nitroglycerin had greatly increased the disturbances.

I would recommend, therefore, that in all cases of vertigo coming to the otologist he should employ minute methods of study as to the tympanic and labyrinthin condition, but also investigate personally or through the aid of a judicious physician all the general aspects of his patient's case. He should exclude or relieve all involvements of the accessory nasal cavities, investigate the refraction and muscular relations of the eyes, as well as learn whatever teaching may be given him by the eye-grounds and, abating nothing of the local treatment by inflation and massage, which the aural condition may seem to demand and using strychnia and other tonics according to the general needs of the patient, he may yet employ as a direct and almost specific means of treatment this vigorous vascular tonic, which has been given us in the adrenal extract.

DISCUSSION.

DR. GEORGE L. RICHARDS, Fall River, Mass.—I have at the present time a troublesome case of aural vertigo, which illustrates one phase of which the Doctor spoke. This man improved for a number of weeks under the catheter and aural massage in connection with such general treatment as was given him by his family physician. But now the period of improvement seems to have passed, and I am not apparently doing him any good. Given a sudden change of temperature from warm to cold and an attack may come on at any time. He is better under continuous warm weather, and he has gone south for a number of winters. Our New England temperature is so changeable that he has never dared to go away from home without taking his wife or daughter with him, for several years, for fear of being overcome with an attack when alone.

DR. C. H. BAKER, Bay City, Mich.—I think the author of the paper made the statement that a case he mentioned was probably hemorrhagic and that the lower tones were lost so that the patient did not recover the power of hearing speech, and I think he gave that as an indication that the hemorrhage was in the upper convolutions of the labyrinth. I was under the impression that the destruction in the lower portion of the labyrinth causes impairment of the lower tones and that the higher tones are disturbed by the involvement of the upper portion. As to the case mentioned by the last speaker, the effect of sudden lowering of the temperature would be to raise the blood pressure by contracting the arterioles, and there I would think adrenalin would be contraindicated, since it would practically do the same thing, and nitroglycerin, from theory, we would expect to be more beneficial. The most distressing case of this disorder I have seen occurred in a man so youthful that it could hardly be thought of as a case of arteriosclerosis. Before the vertiginous attacks began he had symptoms of tinnitus, without impairment of hearing. He has now apparently lost the hearing. The bone was apparently undergoing hyperplasia and filling up the canals, the pressure destroying the activity of the nerve elements.

DR. RICHARDS—In my case, the patient always had nausea with the attacks.

DR. SARGENT F. SNOW, Syracuse, N. Y.—I wish I could have heard this paper before, for I had a case last summer in which I believe adrenalin would have been of much temporary benefit, which probably is all the Doctor hopes for from its use. The chief thing to think of is the removal of the cause, and eustachian destruction is often the main factor of these vertigoes. In the last year I have had two cases. In one case, a woman, the only abnormal condition I could find was some enlargement of the middle turbinates. She could not stay for prolonged treatment, but could have some operative work done. Removal of the turbinates was followed by a cure, and there has been no return. The other case was a man, about 55 years of age, with such intense vertigo that at times he had to be led about the street. He also had obstructed eustachian tubes. I removed the turbinates without avail. Looking further into the condition of the man, I found the whites of the eyes very yellow and the other general appearances that go with a torpid liver. I could get no results that remained at all constant until his liver was aroused. At first I gave him a good sized blue mass pill twice a week and later every week. The eustachian tubes in this case, as well as the first, were obstructed, but this has now cleared up.

DR. GEORGE M. CASE, Elmira—I think Dr. Snow has well represented the condition of affairs. We have not only to look to the local conditions but also to the constitutional conditions. My experience in the treatment of aural vertigo is that you will often find a toxemia or a lithemic condition. A great many of these cases would be relieved by the combined treatment. If we attempt to cure them by only relieving the stenosis of the nose and eustachian tube, we will often fail. It is noteworthy that in many cases of tinnitus and vertigo the constitutional condition is an important factor. In the great majority of cases in plethoric patients I use pilocarpin. Of course, I suppose adrenalin might take the place of it as a temporary expedient.

DR. C. R. HOLMES, Cincinnati—This is a subject of great importance, because we encounter it so frequently. I have had a few cases of severe vertigo. In fact, I have the records of three cases with epileptoid seizures, which were entirely relieved by opening the eustachian tube. One man, in particular, who was entirely deaf from childhood, began having these attacks. On his way to Cincinnati he had two attacks. While sitting in the car he slipped off the seat. He had attacks similar to those of epilepsy, but without the biting of the tongue. They were relieved by opening the eustachian tubes, but they recurred until the general condition was looked after. I now never undertake the treatment of a case without going into the patient's manner of living, to find the conditions that it may be necessary to correct, such as the method of living, eating, drinking and clothing. I have printed, for the benefit of my patients, slips, which I hand to them that they may not need to ask me a lot of questions, the answers to which they will forget. I give these slips to all my nasopharyngeal and aural patients. I think the general treatment is of vast importance.

DR. J. C. BECK, Chicago—I have in mind one case of aural vertigo in which no trouble was found in the nose or throat. I could clearly obtain the history of specific disease. The patient does not need to reach the usual age of arteriosclerosis to have that condition after syphilis. We find many cases of vertigo are syphilitic in nature, and, therefore, constitutional treatment is certainly called for. Iodid of potassium and the thorough use of mercurial inunctions cured my case.

DR. B. A. RANDALL, Philadelphia—When my paper is read I think the gentlemen will note that the constitutional conditions are fairly gone into, and that I am almost as bad as Haig in attributing to gout and the uric acid diathesis every ill that flesh is heir to. The point made by Dr. Snow is good, that the effect from the adrenal is temporary; but it is often important to get the effect quickly, even though only temporarily, to meet the crisis that is imminent in these cases. We may give the adrenalin chlorid if the aura is very short and no time remains for the slower absorption of the powder, but otherwise the desiccated adrenal or its solution should be used, for with it a more prolonged effect can be secured. If we contract the vessels with adrenalin we may expect some reactive expansion in most cases, and we must meet this with strychnia and other tonics. But the promptness with which the adrenalin can act in the stage of aura or prodrome, which is recognized in not a few of these cases, enables us to permit them to walk abroad like free men and women and that is no small gain. As to nitroglycerin, it is distinctly indicated in some of the very flabby neurasthenic cases, who will improve very much

under its employment and lose the dread of vertigo. But, on the other hand, one of my patients, a gentleman who seems to have been so pleased with the effect of the adrenal that he has been sending me patients ever since, was apparently made worse by the employment of nitroglycerin. He is distinctly neurotic. He is one of the type who can ride in an automobile or trolley without catching a cold, but is stuffed up at once when he rides behind a horse. Of course, these cases are known, but they are relatively rare. Whether these cases are rheumatic or due to some other intoxication, they are subject to easy impression, and the use of adrenal is of special value.

I need hardly answer the point raised as to the structure of the cochlea, which entails the disputed Helmholtz theory and is one of the paradoxes of the auditory apparatus, of which we have so many. In the first turn of the cochlea, where the tube and the expansion of the bony lamina is at its broadest, the basilar membrane of the cochlea is at its smallest. Where all the other parts of the cochlea are smallest, the fibers of the membrane are longest, and here at the apex the lower tones are heard, while the high tones are heard in the lower portions of the cochlea.

TRANSILLUMINATION OF THE NASAL ACCESSORY SINUSES DURING ACUTE CORYZA.*

CAROLUS M. COBB, M.D.
BOSTON.

Transillumination of some of the accessory sinuses has been one of the stock tricks of traveling showmen for many years, and in every village where they exhibited a few of the more daring boys learned to make "fire come out of the eyes," and were a decided nuisance with it until something else took up their attention. That a lighted taper held in the closed mouth would, under proper conditions, illuminate the pupils of the eyes has probably been known for many years, but it was not known that the phenomenon was of any practical importance as a means of diagnosis until Voltolini of Breslau published the results of his experiments in 1888. In 1889 Heryng of Warsaw elaborated these experiments and placed transillumination on a practical working basis. Brown Kelly of Glasgow first called attention to the fact that the rays of light entered the eye and could be perceived by the patient. This was in 1892, and his observation was shortly followed by similar ones by Garel of France and Burger of Germany. Davidsohn called attention to the fact that if the eyes were opened during the experiment a dull red reflex could be seen in the pupil, and in a scientific way we have made useful, as a means of diagnosis, the trick of the traveling showman which was copied by the small boys of making "fire come out of the eyes."

In transillumination of the antrum of Highmore the rays of light pierce the hard palate, and first enter the nasal chambers and from there through the external nasal wall to the antrum, and then through the roof of the antrum, which is the floor of the orbit, and then the coats of the eye, and so become visible as a dull red reflex in the pupil. It is evident that this is the course of the light, for in a vast majority of the cases the floor of the antrum does not extend over the hard palate far enough for the rays of light to enter it directly. The floor of the antrum is generally just above the alveolar process, and therefor light would meet with less resistance in following the route as given above. The course of the light leads to a source of error which we will call attention to later.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. Eric Mayer, C. R. Holmes and G. H. Makuen.

MEANS OF ILLUMINATION.

To obtain satisfactory results it is necessary to have a dark room and an electric lamp of sufficient candle power. The dark room is generally easy to get, but it has been my experience that it is not so easy to obtain electric lamps of the requisite candle power. When I first began to transilluminate the sinuses I was not at all satisfied with the results which I obtained, and during my investigation to find the reason for my unsatisfactory results I took my lamps to the General Electric Company and had the candle power measured. I found that lamps which I had bought as two and four candle power were all less than one, and some of them of less than one-half candle power. I have had the same experience when I have bought lamps of instrument dealers, until I have come to the conclusion that they make no effort to ascertain the candle power of the lamps which they sell. One reason for the lack of illuminating power of the lamps ordinarily sold for this purpose is that they are too small and it is absolutely impossible to get sufficient light from these toy lamps. Lamps of sufficient power can be obtained from reliable manufacturers of electric lamps, but they are quite likely to sell you what you ask for, and if you demand a small lamp you will get as efficient a lamp as can be made in that size, but probably it will not be what you want for the work. Even if it is fairly satisfactory for a time, it will soon lose its efficiency and be worse than useless because the results obtained will be unreliable.

TECHNIC.

The technic of transillumination of the accessory sinuses is very simple, provided that you have lamps of sufficient candle power, and by its use we may get confirmatory evidence in regard to the condition of the antrum and frontal sinus. We can compare the two sides, and, what is of more importance, we can compare the condition of the sinuses, as shown by the light reflex, at different stages of an acute attack. The method which I have used for transillumination of the antrum is to have the patient hold a four or five candle-power electric lamp in the closed mouth, being particular to have the lamp held as nearly horizontal as possible. If the antrum is healthy this will usually give the light crescent under the lower lid and the red reflex in the pupils. I have not had sufficient experience with the method of Escat to form an opinion of its merits. His method, briefly, is to carry an electric lamp protected by a metal funnel, to the outside of the antrum, between the cheek and the external wall of the antrum. It is claimed for it that it gives the same results as the other method, and that it overcomes a source of error, i. e., the obstruction to the passage of the rays of light caused by growth, hypertrophies or deformities in the lower meatus. The frontal sinus is illuminated by pressing a small electric lamp, protected by a hood, against the inner angle of the orbit, just below the superciliary ridge. All of the members of this Section are perfectly familiar with the sources of error in transillumination, and I shall call your attention to only one, which can, with a little care, ordinarily be overcome. The one to which I allude is the effect that blocking of the lower meatus may have in preventing the passage of the rays of light. Obstruction in the middle or superior meatus does not have so much and often not any influence. If the obstruction in the lower meatus is of a permanent nature the question of removal is to be considered, but temporary congestion can be removed by

the application of adrenalin, and I have found it an advantage to use it if the congestion is at all marked.

CLASSIFICATION OF CASES.

What diseases may extend to the nasal accessory sinuses and what proportion of the cases of inflammation of the nasal chambers, from whatever cause, are accompanied by involvement of the accessory sinuses, is a question of the utmost importance. I have to report the results of some work which I have done in transillumination of the accessory sinuses during the course of acute coryza. These results are, of course, subject to all the sources of error that may be encountered in transillumination in general, and the conclusions to be drawn from the findings can be accepted only subject to this element of doubt. I have transilluminated 30 cases of acute coryza, and I shall not weary you with a detailed account of each case, but rather divide them into classes or groups. This division is, to a certain extent, arbitrary, but will serve to study the condition.

Under the first group I have included all of the cases that were seen during the first twenty-four hours of the beginning of the acute coryza. There were six of these and transillumination gave negative results, although two of them later on in the course of the disease gave a shadow in one antrum. Two of them I did not see again, and in two of them the antrum and frontal sinuses remained clear.

The second class includes those cases which were seen during the later stages of the attack, or rather the cases in which the attack persisted longer than the usual cold and gave discomfort enough so that the patients sought relief from special treatment. These cases were originally more severe than the ordinary cold, or had become so by neglect or exposure. There were five of these and in two the antrum and frontal sinuses were clear, one gave a dark shadow in one antrum and one in both, and one had one frontal sinus that was dark.

The third class includes those who had pain either in the face or head. All but one of these cases had that peculiar form of headache that usually begins about 9 or 10 a. m. and continues with more or less severity for 5 or 6 hours and then disappears completely until about the same time the next day. If the pain is unrelieved it may come earlier on succeeding days and last later until it is nearly continuous. It is known under various names, such as hemicrania, brow ague, sun headache, etc. In the four cases which had this pain I found the antrum dark on the same side as the pain. I was surprised to find the frontal sinus invariably clear. I fully realize that four cases do not furnish sufficient data from which to draw conclusions, but I certainly feel that even this number of cases may stimulate others to continue the research. At present we can only say that it is interesting and, while it may be merely a coincidence, it may, on the other hand, lead to some definite knowledge of this class of headaches and in this way be of benefit to our patients. The other case was interesting from the fact that he had had a variety of diagnoses made of his disease. The pain was diffuse over the left side of the head and in the back of the neck, and he was told at first that he had beginning typhoid fever, later that he was suffering from eye strain, and after he had had his eyes examined and glasses gave no relief, that he was suffering from brain fatigue. He then consulted Dr. C. E. Meader of Lynn, Mass., who suspected the true cause of the pain and sent him to me for transillumination. I found the left antrum dark and treatment to improve the nasal drainage gave him relief from his pain, although it was several weeks before the antrum was entirely clear.

The fourth group includes the cases which had otitis media as a complication during the course of the acute coryza. There were fourteen of these and they were of the usual severity. In ten of these cases one or both antra were dark on illumination. In many of the cases the ethmoid cells were also involved, but the frontal sinus was very rarely dark on transillumination. As a matter of fact, in all of the thirty cases the frontal sinus was involved alone in only one case. I do not wish to be understood as claiming that all cases of otitis media have also involvement of the nasal accessory sinuses, but what I have found in these cases is that if the otitis media exists as a complication of acute coryza the nasal sinuses are likely to be involved. It does not seem surprising that the nasal accessory sinuses should be involved if the infection is severe enough to affect the middle ear, because the ear infection can only result from the disease extending a much longer distance than would be the case in involvement of the accessory sinuses. All of the explanations that are given for the extension of the inflammation to the middle-ear cavity apply with equal or still greater force to the extension of the disease to the nasal accessory sinuses. All cases of otitis media which did not originate as a complication of an attack of acute coryza have been excluded, and I have made no attempt to find what proportion of the cases of otitis media originate in this way. I have no theories to advance, but have confined myself to a statement of the facts which I have observed, and while it may be possible that I have had an exceptional series of cases, still I can not help feeling that, under ordinary circumstances, we shall find the nasal accessory sinuses involved in a much larger percentage of these cases than we now believe to be the case.

SUMMARY.

In closing I wish to call your attention to the following summary:

First, that to do satisfactory work it is necessary to have lamps of much greater candle power than those usually sold by instrument dealers.

Secondly, that it is rare to find the acessory sinuses dark on transillumination during the early stages of acute coryza.

Thirdly, that during the later stages of a prolonged attack it is the usual result to find one or more of them dark.

Fourthly, that hemicrania is often closely associated with antrum disease.

Fifthly, that it is almost the rule to find one or more of the nasal accessory sinuses involved when the ears are affected during acute coryza.

DISCUSSION.

DR. ALLEN DEVILBISS, Toledo, Ohio—I believe my failures—to a considerable extent—in getting transillumination have been for the very reasons Dr. Cobb has stated. I shall certainly try a stronger light. His ideas of voltage are good.

DR. B. A. RANDALL, Philadelphia—I wish to claim the priority in this matter for a Philadelphia man. In the Pennsylvania state medical meeting of 1885 was the first time I saw it, but Dr. Addinell Hewson had demonstrated it before that time. He then showed points that are still too much ignored. Dr. Cobb has spoken of the difficulties of darkening. Hewson made use of a small hood, something like that used in the stereoscopic apparatus or like an inverted fluoroscope, and, placing that between his own face and the patient's face, he could demonstrate everything as well in a bright room as if it were all dark. It is a convenience to remember that

a photographic dark cloth, preferably of velvet, is all that is needed to give the darkness required for this examination. These simplifications are of very great importance, because they will lead us often to make the examination when otherwise it would be passed over. One objection to the large lamps, which otherwise are strongly to be approved, is that they are inconvenient to hood. I use habitually a small lamp and, with the aural speculum, you can get transillumination of the frontal very nicely. You also can transilluminate the anterior ethmoidal cells to a large extent by throwing the light through the bridge of the nose.

The essential point that Dr. Cobb has made is that if we want to get many of our pieces of apparatus right we must go to the commercial men, who are in close competition. All kinds of batteries, with all sorts of claims not borne out in the least, and all sorts of lamps are on the market. We must have better apparatus, that will stand the fire of commercial competition. We can go to the general electric companies, if necessary, rather than to the regular instrument makers, to get pieces of apparatus that are satisfactory. One further clinical point. When I have suffered, myself, with an acute filling of the antrum of Highmore there is, ordinarily, at first no dimming of the transillumination. But on one occasion I remember being a little stuffy and greatly inclined to sniff in order to clear my head, and every time I did so I would feel the tension provoked by the rarefication of air. The sinus that was at first clear, became suddenly dark. We read of cases of polypi of the Highmore. The mucous membrane of the Highmore can puff up with edema to an inch in thickness, which is not polypoid but edematous, and this may disappear in a short time. This is due frequently to error on the part of the patient, through trying to clear the nose by sniffing, thus producing suction, rather than by blowing out the mucus. The normal delivery of the fluid secreted within is really a matter of evaporation and the moist air is carried away. In normal respiration there is sufficient exchange of air in the sinuses. I believe, to all intents and purposes, the ear is an accessory sinus in the same sense and is to be so regarded in all coryza cases. The ordinary tidal respiration produces a certain ventilation that is desirable. I know I have saved patients a good deal of discomfort and possibly more than mere temporary suffering by directing them to avoid this sniffing with its rarefication of air in the nasal chambers, when the mucous membrane was ready to take on changes quickly through vasomotor and other influences.

DR. CHARLES H. BAKER, Bay City, Mich.—This paper is a very timely one and very suggestive. In the matter of lamps there has always been great difficulty. The lamps which have been put on the market, the small lamps particularly, have been nearly always below the candle power at which they are rated. I have secured recently some lamps, smaller than the ones here, which are suitable especially for transillumination between the cheek and the jaw. They are of low voltage and they were very cheap, so that if I did burn them out they could be readily replaced. The Doctor spoke of the transillumination of the cheek and the supramaxillary fossa, but said, I believe, that he had not used it much. I believe it was at Columbus this same subject came up, and it was strongly urged that transillumination be made through the retromaxillary fossa. The following week I found a case, in which transillumination through the mouth showed no difference, apparently, but on transilluminating through the retromaxillary fossa there was considerable difference between the two sides. Following the suggestion made at that meeting, I operated through the canine fossa and I immediately got a purulent discharge, showing that the lamp had done its work satisfactorily and had enabled me to make a correct differential diagnosis. The device which I have used for operating these lamps is as follows: I have the alternating current and the alternating current controller. The usual light current received in the building is passed through a coil of moderately heavy wire, and over this is a coil of very much coarser wire, and I can regulate the current so that the voltage is lowered and the amperage increased. With this you can illuminate any lamp, from the small dental lamps to the ones here exhibited. If you have such a current, you will find that form of controller the most satisfactory. It is certainly better than any form of battery, in that it is permanent and always ready when the current is flowing. It is a great satisfaction to the surgeon to be able to demonstrate whether the sinus is involved in acute coryza, and it is important to know whether you have the sinus involved at all. In the headaches coming on periodically, say at 9 or 10 o'clock, and continuing until 3 or 4 in the afternoon and increasing in severity until perhaps an hour before they disappear, the form of the headache is almost diagnostic in itself. In a number of cases this peculiar headache has lead me to the diagnosis of the condition. The relief of the obstruction of an involved sinus has led to the cure of the headache and also to a cure of the disease.

DR. D. A. KUYK, Richmond, Va.—I would like to ask Dr. Cobb, could not the tuning fork be used as a subjective test, in addition to the transillumination? Suppose we have a heavy, dense bone, instead of a cavity, would the tuning fork reveal a difference, depending on the conduction on the affected side?

DR. C. M. COBB, Lynn, Mass.—I see no reason why the tuning fork should not be used as a method of confirming the diagnosis. I have made no claim in regard to what might be in the sinuses, as to whether they are filled with a fluid or with a swollen mucous membrane. But one point needs emphasis, and that is that all of these cases do not need operation. A much larger proportion of them will get well than in cases of acute otitis media. They recover by a process of resolution in probably nine out of ten cases and the antrum will become clear. They will always be helped by increasing the drainage. It is the rule for them to recover spontaneously.

AN UNUSUAL CASE OF NASAL SYPHILIS IN A CHILD AND A CONSIDERATION OF SYPHILITIC NASAL TUMORS (SYPHILOMATA.)*

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The consideration of syphilitic affections of the nose has always been of such interest that another paper on the same subject needs no apology, even though no new ideas can be advanced. Syphilitic conditions involving the nose at times take on very unusual forms, and very often do not in the slightest degree follow the classical picture described in the text-books. This is particularly true of late tertiary lesions. Tertiary manifestations, such as broken-down gummata, destructive ulcerative processes and caries followed by the well-known deformities, are, of course, very common, and are usually easily recognized. This is not so, however, when the tertiary lesion takes the form of a tumor—a syphiloma—particularly when no history of syphilis can be obtained. This form of the disease will be the only one considered in this paper.

A considerable number of cases of tertiary nasal syphilis have come under the writer's observation, and among them there were three in which the only manifestation of the disease was the presence of tumors in the nose. In two of the cases they were attached to the septum and in one the tumor sprang from the inferior turbinate. By these tumors I do not mean the usual gummata or granulomata, which almost invariably break down if the patient does not promptly receive anti-syphilic treatment, but distinct new growths

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. Emil Mayer, C. R. Holmes and G. H. Makuen.

covered with an intact mucous membrane and not showing any tendency to ulceration. The following case demonstrates very well the fact just mentioned and the difficulties that are sometimes met in making a correct diagnosis.

CASE 1.—About a year ago a boy, aged 7 years, was brought to one of our clinics for nasal treatment. The mother, a French-Canadian, and not a very intelligent woman, gave the following history of the child's illness: During the past eight or nine months he had been breathing very badly, and this difficulty in breathing had increased very much during the past two or three months. He had lost weight and slept very badly, in fact had to almost sit up in bed during the night.

Examination.—On examination of the nose, we found both nostrils completely occluded by tumors springing from the septum, and about the size of small cherries. There were two tumors in each nostril, one of which had a distinct pedicle and looked rather like a papilloma. They were fairly firm to the touch, of slightly irregular shape, grayish in color, but covered with an intact mucous membrane, which showed absolutely no evidence of ulceration. Examination of the pharynx and larynx showed normal conditions, with the exception of slightly enlarged tonsils. He had been treated for a number of weeks in the eye and ear clinic of the hospital for a severe, right, dacryo-cystitis. Externally there was a small fistulous opening on the cheek, about an inch below the lachrymal sac, communicating with it, and discharging pus. The boy was very anemic and had a severe reflex asthma. Examination of the urine and sputum gave negative results. After carefully questioning the mother we discovered that her husband had died of tuberculosis, and that she had lost a sister by the same disease, but we could at this time obtain no history of syphilis. It was positively denied.

Treatment.—The boy was given Fowler's solution, and treated locally for a time, because the mother objected to operative procedures. His condition finally became so pitiable and the asthma increased to such an extent, that we were allowed to operate. Under ether, both nostrils were thoroughly cleaned out. Careful examination with the probe during the operation failed to reveal the presence of caries. He improved very much for a time, but within two months both nostrils were again completely obstructed. The mother then finally admitted that her husband had acquired syphilis, and that she had been infected before the birth of this child. There being now no doubt of the diagnosis, the boy was given potassium iodid and began to improve at once. Within two months he was practically well, the nasal tumors and the asthma having entirely disappeared. We saw him from time to time during the next six months, and both nostrils remained entirely free.

Histologic Examination.—Portions of the removed growths showed that the tissue was made up of round cells, with here and there cells similar to spindle cells. There was also a connective tissue formation, and thickening of the walls of the blood vessels. Tubercle bacilli and tubercles were not present. This examination, with the result of the treatment, made the diagnosis of syphiloma positive.

The case, I think, presents some very unusual features. Here was a boy with congenital syphilis—the only indication of the disease being the presence of the nasal tumors—who had never before received antisyphilitic treatment, and nevertheless the nasal growths at the time he was examined showed no evidence of breaking down. This one fact, without the histologic examination, is enough to prove that they were neither gummata nor tuberculous granulomata. Another interesting point is the distinct pedicle that one of the tumors had and the presence of the syphilomata in both nostrils. In most of the cases of nasal syphiloma the tumors are confined to one nostril. One of Frank's cases was also an exception to this rule. I would very briefly like to refer to two other cases, observed during the past few years:

CASE 2.—Mr. G. S., aged 36, married and the father of healthy children, consulted the writer in May, 1897, for what he thought was a "cold in the head." His family history was excellent, there having been no cases of either tuberculosis or syphilis. The patient had had a chancre some years before I saw him, but had not had any other symptoms of syphilis.

Examination.—The sputum and lungs were negative. The posterior nares, pharynx and larynx showed normal conditions. A growth the size of a walnut, firm to the touch and showing no evidence of breaking down, was present in the right nostril, and was attached to the septum.

Treatment.—This was removed with a snare, and the seat of attachment thoroughly cauterized. Recurrence after three months. The patient was then put on iodid of potash, and recovered completely, the tumor entirely disappearing and not recurring.

Histologic Examination.—As in the last case there was a connective tissue formation and thickening of the walls of the blood vessels, but a considerable number of tubercle bacilli and giant cells were also present.

An examination of the patient's nose four years afterward showed that both nostrils were in a normal condition. There was no indication in the right nostril of a return of the growth, and examination of his nasopharynx, larynx, pharynx and lungs was also negative.

In this case the histologic findings, with the exception of the endarteritis, would speak rather more for a tuberculoma than for a syphiloma. The absence of any ulceration, however, and the rapid disappearance of the tumor when iodid of potash was administered make the diagnosis of a syphiloma positive, I think. Giant cells as shown by a number of writers (Kuttner, Browics, Manasse) are sometimes present in syphilitic tumors. The presence of tubercle bacilli in this tumor is of considerable interest, because it has been claimed that they are never found in syphilomata. Tubercles with cheesy centers were not found.

CASE 3.—The last case of my own, which I wish briefly to mention, is that of a man, aged 58, who consulted me March 1, 1901, for nasal obstruction. For several months he had not been able to breath at all through the right nostril, and he had suffered a great deal from headache. I had removed polypi from his nose several times, and thought, of course, that he was suffering from a recurrence of the same condition.

Examination.—On examining the nose, however, I discovered a large tumor completely filling the right nostril, and apparently springing from the inferior turbinate. It had an irregular surface, was firm to the touch, and had an intact mucous membrane, with the exception of two or three small superficial erosions, but there was no evidence of any breaking down. The glands on the same side of the neck were somewhat enlarged, and the right cheek in the region of the antrum was very hard and much swollen. I told the patient that I could not make a positive diagnosis without removing a piece of the growth for examination. I really thought, however, from the appearance of the growth and the patient's age, that it was probably a sarcoma, having its origin in the antrum of Highmore. Most of the tumor was removed with the hot loop and examined by Dr. George Blummer of the Bender Laboratory, who reported that it was not malignant, but that it was a granuloma and probably a syphiloma. The histologic findings were the same as in the first case reported. The patient now admitted that he had had a chancre five years before.

Treatment.—He was given iodid of potash, and what was left of the tumor rapidly disappeared, every trace of it subsiding within six weeks. There has been no recurrence since that time.

Syphilitic nasal tumors of this kind are certainly of a distinct and unusual type, and belong in a class by themselves. The term syphiloma, first given to these tumors by Wagner, although objected to by no less an authority than Virchow,[18] is, I think, a good one, because, as will be brought out in the differential diag-

nosis they are not exactly the same as syphilitic granulomata, and they are certainly not gummata. Kuttner,[15] in his able article on nasal syphiloma, has reported four cases of this kind, of which I will give brief abstracts.

CASE 4.—Woman, aged 33; no history of syphilis. In the right nostril grayish-red tumor masses, attached to the middle turbinate. On microscopic examination, walls of the vessels were found thickened. Recurrence after removal. Anti-syphilitic treatment and cure. No recurrence after nine months.

CASE 5.—Woman, aged 42; no history of syphilis. Large tumor in right nostril attached to septum. Microscopic examination of removed portion negative. Recurrence after removal. Anti-syphilitic treatment followed by cure. No recurrence after six months. Giant cells were present in large numbers.

CASE 6.—Woman, aged 31, who some years before had been infected with syphilis. Small tumor attached to inferior turbinate, right nostril. Microscopic examination showed presence of giant cells and thickening of vessel walls.

CASE 7.—Woman, aged 28. Right nostril filled with hard, red tumor masses attached to septum. No history of syphilis. Microscopic examination the same as in the other cases.

Ripault[12] has also reported a case. Manasse[7] has reported five cases of the same nature from Kuhn's clinic, based on careful microscopic examinations. In his cases the tumors also had smooth surfaces and seldom showed any indication of ulceration. According to his conclusions they may occur singly or they may be multiple, and are usually attached to the septum. Their color is grayish red. They may be attached by a pedicle or may have a broad base. They were composed of granulation tissue and round cells, which were separated by very little intercellular substance. In a number he found giant cells, but never real tubercles with cheesy centers nor tubercle bacilli. He considered them connective tissue tumors arising from the submucous connective tissue, and very similar to tuberculomata, from which they differ by the absence of tubercles with cheesy centers and bacilli. Thickening of the arterial walls speaks for lues, but Chiari[17] has found this in nasal tuberculomata. Three cases have been reported from Kuhn's clinic by Frank.[4] The tumors in these cases were at first thought to be sarcomata. They disappeared after iodid of potash was given. In two of the cases the tumors were attached to the septum, in the third case, a child 12 years old, both nostrils were filled with hard tumors. A case has been reported by Krecke[11] in which two granulation tumors, the size of pigeon eggs, were present, one on the posterior wall of the pharynx and one in the nose. Scheinmann[13] describes cases in which he speaks of a syphilitic thickening of the turbinates. This particular type of tumor (syphiloma) is not mentioned at all in many of the well-known monographs and text-books on the nose and throat.

THE DIAGNOSIS.

In considering the differential diagnosis we find that these tumors may be mainly confounded with tuberculosis granulomata, simple granulomata, inflammatory fibromata, lupus nodules, gummata and malignant neoplasms. First it must be remembered that no one of the symptoms that patients with nasal syphiloma complain of, the pain in the head, face and arm, is absolutely characteristic. The same symptoms are present in other affections of the nose, i. e., tuberculosis, caries and malignant tumors (Kuttner). There are several points which macroscopically distinguish these tumors from tuberculomata. They are usually of a peculiar grayish or grayish-red color, firm to the touch and are sometimes covered with a tenacious, fibrinous exudate. There are sometimes small erosions on the surface of the tumors, but very rarely much ulceration and they do not break down easily. Manasse observed a deep ulceration in one of his cases. In cases of true syphiloma there is very rarely caries present, and it is doubtful whether a number of the cases on record (the first, fourth and fifth reported by Manasse, and Kuttner's fourth case), in which the syphilitic tumors had their seat in close proximity to septal perforations, belong in this class. Septal perforations occurring during the course of syphilitic affections are undoubtedly the result of gummata breaking down and involving the periosteum. The inflammation of the surrounding tissues accompanying this destructive process may be the cause of some of these granulation tumors arising near the perforation. In the writer's three cases no evidence of caries could be found. The tuberculoma almost invariably has its seat on the anterior part of the septum, although there are a few exceptions, as in one of Kuttner's cases, in which the tumor was attached to the middle turbinate, two of Störk's and one of Chiari's. They show a much greater tendency to break down and usually have either superficial or deep ulcerations. Histologically the diagnosis may be almost always positively made. Goerke[5] claims that the finding of tubercle bacilli in these tumors is a positive differential diagnostic sign. That this is not always true is proved by the writer's second case, in which tubercle bacilli were found in an unquestioned syphiloma. The vegetative form of nasal tuberculosis described by Gourdiat,[6] which simulates a malignant neoplasm, must also be considered. These growths also have their seat on the septum and are of slow development. The diagnosis can usually only be made by the histologic examination.

The syphiloma microscopically is made up of round cells and between them some spindle cells. There is also a formation of connective tissue. Walls of the blood vessels are thickened. There are never real tubercles with cheesy centers and very rarely tubercle bacilli, as in the tuberculoma. It must be borne in mind, however, that Chiari has found thickening of the vessel walls in tuberculomata, and that simple granulomata, which also have their seat on the septum, sometimes contain giant cells and thickening of the walls of the vessels. Baumgarten was the first to point out the fact that giant cells are present in gummata, and they were also found by Manasse, Browics,[1] Brodowski[2] and others. Kuttner and Manasse have also found giant cells in typical syphilomata. So that histologically the structure of syphilomata and tuberculomata is very nearly the same, really the only points of difference being the presence of tubercle bacilli and tubercles in tuberculomata. Tubercles with cheesy centers, so far as I could discover, have not been found in a syphiloma, and when found would make the diagnosis of a tuberculous tumor positive. Thickening of the vessel walls, as a rule, speaks for a syphilitic tumor. After all, then, when all is said, the administration of iodid of potash is one of our greatest diagnostic measures.

The diagnosis of a simple granuloma has been sufficiently considered. It differs not only in appearance, but in its histologic structure. That of fibroma and lupus can usually also be made microscopically. The differential diagnosis of a syphiloma from a malignant neoplasm, and particularly from a sarcoma, often presents difficulties which are not always cleared up by the microscopic examination. It is sometimes very difficult, as shown by Finkler,[14] to distinguish a granulation tumor from a small, round-celled sarcoma. This has been well brought out in a case reported by Levy,[10]

in which a small tumor was present in the region of the middle turbinate. A portion was removed and examined by two competent pathologists, and both agreed that it was a small, round-celled sarcoma. The growth entirely disappeared when iodid of potash was administered. The tumors in Frank's cases were also at first considered to be sarcomata. The diagnosis of a malignant growth in the nose can, however, as a rule, be easily made by the subsequent history of the case, by the microscopic examination and by exclusion. The diagnosis of gummata has already been partially considered. Macroscopically they differ from syphilomata in that they are much less elevated above the surrounding mucous membrane and break down very readily. They resemble the syphiloma more nearly than any other tumor. Histologically they are made up almost entirely of granulation tissue (Langenbeck[9]).

In conclusion, a statement made by John N. Mackenzie[3] some years ago should always be remembered. In considering late forms of congenital syphilis he said, "that it may lie in a quiescent state in the system for many years after birth, and when it does make its appearance the outbreak usually occurs in the pharynx and in the form of deep destructive ulceration."

So that when a tumor such as I have attempted to describe in this paper (and I realize but poorly and insufficiently), is found in the nose, especially of a young person, and if it resists the ordinary methods of treatment and promptly returns after removal, this unusual form of syphilis should be thought of.

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DISCUSSION.

DR. W. S. ANDERSON, Detroit—This paper has been very interesting to me, because I have had an opportunity to study a number of such cases. A young girl, about 15 years of age, came to my clinic with an obstruction in the right nostril of three or four months' duration. I found a small growth on the cartilaginous portion of the septum, and back of that was another tumor. The nasopharynx was filled with the growth. There was a large infiltration of the lymphatic glands under the jaw. There was no history of syphilis in the family, so at that time the diagnosis, to my mind, was either sarcoma or gumma. There were many points in favor of each diagnosis. There was no pain and only in the nasopharynx did the growth appear to be of a malignant nature. I put the child on inunctions and iodid of potassium, and the growth gradually disappeared, until at the end of three months there was not a vestige left. The patient completely recovered. There are several points I would like to make. First, we can not depend very much on the history. Very often we find syphilis where we can get no history whatever. Second, we should not be in haste to operate until we have excluded syphilis. It would be much better to put these patients on a course of antisyphilitic treatment before operating. Third, mercury is of distinct service, and we should not depend on iodid of potassium alone. There is nothing so satisfactory as mercury by inunction, together with iodid of potassium. In my experience, and I believe it is true in the experience of others, these cases occur very often about the age of puberty, and they seem to be more common in females than in males. Why, I do not know. In some cases I have been able to find diagnostic signs that would indicate that early in life they had had syphilitic manifestations. For instance, in one case there was an iritis, and in another affection of the pharynx and Hutchinson's teeth. In the majority of cases the syphilitic manifestations are so light as to have been passed unnoticed. I have under observation at present a man who has a swelling over the ethmoidal region, pressing the nose out, with a distinct history of syphilis 25 years ago. The diagnosis of syphilis was made by the attending physician, but he said he had him under antisyphilitic treatment without result. It appeared to be either syphilis or sarcoma. It disappeared under antisyphilitic treatment. It seems to me we should not place too much stress either on the lack of a history of syphilis, or on the statement of the family physician that he has given antisyphilitic treatment. If we put these cases on thorough courses of mercury and iodid of potassium we will often secure excellent results. This is just as true in other parts of the body as in the nose. We should give the patient a chance by antisyphilitic treatment before operating.

DR. WILLIAM L. BALLENGER, Chicago—I wish to suggest that perhaps one of the diagnostic points is not so reliable as stated by the essayist and by the last speaker. Is it not true that antisyphilitic treatment will reduce other growths than those due to syphilis? My impression is that it will in some instances. If that is true, it is not of so much importance as a means of differential diagnosis.

QUESTION—What kind of growths?

DR. BALLENGER—Sarcomata, tubercular growths, and I am not sure but carcinomata.

DR. J. C. BECK, Chicago—The paper interested me very much from the pathologic point of view, in regard to finding tubercle bacilli in specific growths. I have in mind a case of ablation of the nose from specific involvement, where what appeared like the tubercles of tuberculosis were excised and examined microscopically, we found the tubercle bacilli. These were absolutely proven to be tubercle bacilli by culture. The case was demostrated by Klebs, who for a short time resided in the United States, and it was proven to be a tubercular growth and beside a distinct syphiiitic lesion. The child recovered absolutely under antisyphilitic treatment. Fraenkel, as well as many other authors, has found several times mixed infection of this nature, so that these double infections do occur. The disappearance of the growth, after the positive diagnosis was made, and the non-recurrence of the growth, are interesting. A distinct carcinoma of the larynx was shown by Dr. Head of Chicago, in which the diagnosis was confined by microscopic examination. The administration of large doses of iodid of potassium reduced the tumor to half the size for two months, when the case went on in the usual course of carcinoma. Sarcoma does not involve the glands, as a rule, so that when the glands are involved that condition would not come in for consideration. The involvement of the glands would speak rather for syphilis. Iodid of potassium does reduce infiltration, transudations and exudations, whether they are of specific or malignant nature.

DR. D. A. KUYK, Richmond, Va.—I wish to report a case of inherited syphilitic rhinitis in an infant, 11 months old,

referred because adenoids were suspected. Instead, the mucous lining of inferior turbinates was enormously enlarged, almost protruding from the nares. The cartilaginous portion of the nose was much enlarged, looking blue, due to venous stasis. Emaciation was very marked. Family history was unsatisfactory, but from mother's personal history and infant's appearance inherited syphilis was diagnosed. Inunctions of blue ointment were freely used and flexible collodion applied externally to the swollen cartilaginous extremity. In two months the growth had reduced so that there was some nasal breathing. In another month improvement in every respect was very marked, and I have since learned that the child is practically well, though still continuing at intervals to use the antisyphilitic treatment. The diagnosis in this case, though no history was obtainable, was undoubtedly confirmed by the result of the treatment.

DR. PETER J. GIBBONS, Syracuse, N. Y.—It is true that iodid of potassium will reduce many tumors, as well as syphilitic enlargements. But be sure that the iodid is a preparation that you can rely on. Be sure that it is pure and run up the dose to tolerance. As the essayist said, you often find not only general practitioners but members of our branch giving iodid of potassium in gr. vi-xv-xx and not getting desired results. It is hardly necessary to call attention to this at this time, but you must get the dose up to tolerance, which may be anywhere from gr. ii to gr. c., three, four or five times a day. But be sure that your iodid of potassium is iodid of potassium and not sawdust, pipe clay, or some other substitute. If the case is cured by iodid of potassium, we might safely say that it is syphilis, although we, no doubt, get relief in other tumors.

DR. EDWIN PYNCHON, Chicago—Dr. Baldwin of Chicago assures me that he has given iodid of potassium in doses as high as 800 grains a day, and thus gets much better results, that we ordinarily would fail to get with the usual maximum dose.

DR. CLEMENT THEISEN, Albany, N. Y.—Dr. Anderson spoke of cases in which the ethmoidal cells were involved. I tried to differentiate between the syphilitic granuloma and the conditions present with inflammatory processes. In regard to Dr. Anderson's statement that antisyphilitic treatment should be tried before operative treatment, I agree with him, whether there is a history of it having been tried before or not. But in the cases I mentioned it had not been used before. I have, myself, had much better results from iodid of potassium alone than from the combined use of the iodids and mercury in tertiary lesions. Iodid of potassium certainly does influence other growths, as has been said. But in the one case I mentioned, there has been no return for four years, and in the other case there has been no return now for a year and a half.

PERFORATION OF THE NORMAL INTESTINE BY AN ASCARIS LUMBRICOIDES.*

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NARRATION OF A CASE.

History.—The patient was American born, 36 years old, a carpenter. On Sept. 24, 1901, about 9 a. m., he walked into the Norwegian Hospital, Brooklyn, complaining of diffuse abdominal pain; temperature, 99; pulse, 90. He gave a history of diarrhea for a week, which had been checked by cholera mixture. The previous night he had taken a dose of castor oil.

He was kept under observation, and rapidly grew worse. At 11 o'clock his temperature was 102; pulse, 120. The abdominal pain was localized in the right iliac fossa, and a diagnosis of appendicitis was made. An operation was decided on. At 12:15 p. m. his temperature was 104, pulse 136.

Operation.—At 4 p. m. the abdomen was opened and a congested appendix was removed. Although there were indications of intestinal perforation, the alarming condition of the patient prevented any search. The operation was completed hurriedly; pulse 167.

The patient died at 4 a. m. the next day, and an autopsy was made at 10:30 a. m.

Autopsy.—On opening the abdomen a large amount of mucopurulent fluid gushed out. There was an acute exudative peritonitis most marked in the right lower quadrant. The intestines were matted together with an exudate, in some places a quarter of an inch thick. On separating the coils of intestines a living lumbricoid was found. After a short search a small round perforation was found in the small intestine, about ten inches above the caput coli. On opening the intestine no other lumbricoid was discovered, and the mucous membrane seemed, except for the clean-cut perforation, entirely normal.

CASES AND OPINIONS IN THE LITERATURE.

On looking up the history of this subject I find various opinions recorded. Many authors are of the opinion that the ascaris is utterly incapable of puncturing the intestinal wall, while others after reviewing the evidence are convinced that the accident does happen at times. In fact, those who deny the possibility do so on entirely theoretical grounds, while those who admit it do so only after a careful study of facts. In Meigs & Pepper's "Diseases of Children," edition of 1870, p. 875, is the following:

> Among those who advocate the possibility of perforation independent of previous change in the intestinal coats by disease are M.M. Mondiere and Charaday, the former of whom has examined the subject with a great deal of care. . . . Rilliet and Barthez and M. Guersant. . . .
>
> We confess ourselves inclined to believe . . . that worms may in some instances cause a perforation independently of previous disease of the coats of the intestine.

Leuckart, in his "Parasites of Man," p. 138, says:

> The possibility of such perforations has been much questioned. . . . It has been attempted to explain these cases . . . by the supposition that the worms play only a secondary part. . . . I think the denial of these perforations is quite unfounded. . . . In some cases the boring is not confined to the wall of the intestines.

T. S. Cobbold, in his book on "Parasites," London, 1873, takes the same view and cites eleven cases, some evidently due to slow erosion, others apparently direct perforations.

In the "American Text-book of Pathology," p. 341, is the statement in regard to ascaris, "It may perforate the alimentary canal." Dr. Stengel, in his "Text-book on Pathology," expresses the opinion that previous intestinal ulceration is an important factor in these cases.

Dr. Flint, in his "Practice of Medicine," edition of 1886, p. 560, says: "It is not probable that the worms ever perforate the intestines as was formerly supposed."

C. Davaine, in his article on "Lumbricoides" in the "Dictionnairre Encyclopedique des Sciences Medical," analyzes 47 cases and expresses the opinion that such puncture can not take place.

AUTHOR'S THEORY OF THE CASE REPORTED.

My own theory, after a careful study of this specimen in a fresh state, is that the worm became blocked in a transverse position in the intestinal canal with one end caught by a fold or irregularity of the mucous membrane, and that partly by its own movements and partly by peristalsis it was slowly forced through the intestinal wall. This process may have been going on during the whole week that the patient was having intestinal disturbances, the peritonitis coming on suddenly as soon as the worm passed completely into the abdominal cavity, permitting the escape of the intestinal contents.

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* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. A. Stengel, W. S. Hall and Frank B. Wynn.

Appended will be found a table of seven previously reported cases and related bibliography.

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DISCUSSION.

DR. HENRY B. WARD, Lincoln, Neb.—I know of a number of cases in which the worm was found to have penetrated a diseased bowel, but I believe only one case has been reported in which a positively normal gut has been penetrated by this parasite. I can hardly understand how the worm can become blocked in the intestine and gather sufficient force to push itself through the normal wall. The ascaris has a firm body, and can not coil itself closely, as the body breaks when bent. Usually the head of the male worm is more pointed than that of the female, and the worm in this specimen is evidently a male.

DR. W. A. EVANS, Chicago—This worm has been found frequently in the lower animals, imbedded in the wall of the intestine below the mucous membrane, but rarely ever penetrating the muscular coat. This is seen especially in hogs.

DR. HENRY B. WARD, Lincoln, Neb.—I have known the wall of the intestine to be penetrated by certain other worms, as the ankylostoma or uncinaria and trichocephalus, but it is exceedingly rare for the ascaris to penetrate the mucous membrane.

DR. LOUIS C. AGER, Brooklyn—There are cases reported in which large numbers of these worms have gotten into a mass and, by erosion, produced ulceration. There are also cases of umbilical abscess reported, in which the worm has been discharged from the umbilicus, probably due to a patency of the fetal duct leading to the umbilicus. No histologic examination of the gut was made in this case, but the macroscopic appearance gave no indication of chronic ulceration. Moreover, it would be a strange coincidence if a single small ulcer had existed in the gut and that this worm should have found that spot. I think this worm must have worked its way through the bowel by a slow process of erosion of the tissues. There have been cases reported in which lumbricoides have been found in the kidney, inguinal glands, and other places adjacent to the intestinal tract, and they have even been discharged from the eye duct and from the auditory canal. I do not believe that this worm braced itself transversely, but more obliquely, in pushing its way through the bowel. The lumbricoid can coil itself to a limited extent. I have seen one case in which 50 or 60 worms were in one mass, all being coiled on themselves and on each other. One case has been reported in which 5,000 worms were discharged in the course of 18 months.

Typhoid Fever at Lille, France.—Professor Lemoine, in discussing the marked and permanent increase in the number of cases of typhoid fever at Lille, remarks that the majority occur among the well-to-do, and in the fall. Most of the patients had spent the summer elsewhere, and had thus lost their relative immunity to the local water, while the early fall rains pollute the water more or less. The extensive work on the streets has brought to the surface long buried generations of microbes which are whirled about in the dust and fill the hospitals during the dusty season. The only time when the hospitals are comparatively empty is during wet, foggy weather when the microbes are held down by the moisture under foot. But this is the time when the typhoid germ is most active, as it reaches the system in the drinking water. His article appeared editorially in the *Nord. Med.*, Dec. 15, 1902.

THE CLINICAL APPLICATION OF SOME THYROID GLAND EXPERIMENTS.*

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DETROIT.

In 1890, at a time when little or nothing was known of the chemical constitution of the thyroid gland and when we were unaware that it possessed any particular therapeutic action, the writer offered the first experimental proof that the thyroid gland was in some manner concerned in the general metabolism of the organism.[1] While even to-day we are not in possession of any positive proof of the true physiologic rôle of the thyroid gland, its action as a therapeutic agent, and further the clinical and experimental results following total extirpation along with the action of diet in various thyroid diseases and after total extirpation of this gland, indicates that it is in some manner invested with a metabolic function, but which we are not as yet able to particularly define. It would lead us too far were I to attempt to give a résumé of the various phases through which the subject of the function of the thyroid gland has passed. For the reason, however, that both Victor Horsley[2] and F. Blum[3] have misconstrued my position in reference to the metabolic significance of the thyroid gland to the organism, I should like, in a few words, to explain the circumstance which prompted me to study the influence of diet on thyroidless animals.

In 1888, when I first took up this subject, Professor Munk, in whose laboratory I was pursuing my work, believed that the thyroid gland could not be looked on as being of absolute vital significance to the organism, for the reason that some animals remain perfectly normal after total extirpation of this gland, and as late as 1897 Professor Munk[4] again emphasized this statement. He believed that the symptoms following the total extirpation of the thyroid gland were in a large measure the result of irritation of the vagosympathetic nerves and their branches.

The writer instituted a series of experiments in which he applied both chemical and electrical irritation to the various cervical nerves without, however, producing in any case symptoms resembling those noticed in thyroidless animals. To definitely decide this question the writer devised the following method of experimentation: First, the left vagosympathetic and the superior laryngeal nerves were extirpated, the superior incision being made at the superior ganglion and the lower incision half an inch below the lower border of the thyroid gland. The animals were carefully observed during a period of three weeks following the operation; they remained perfectly normal. Following this period the right thyroid gland was totally extirpated and the animals again carefully watched for a period of three weeks, during which time they remained in an absolutely normal condition. Finally the thyroid lobe on the side on which the vagosympathetic had previously been removed was extirpated, and it was shown that the dogs succumbed in precisely the same manner as did the dogs in whom this method had not been resorted to, thus proving that nerve irritation is not absolutely necessary to the production of death after total extirpation of the thyroid gland. Professor Munk, and also E. Fuhr,[5] had noticed that the first thyroid symptoms, fibrillar, clonic and tonic muscu-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. Alfred Stengel, L. Hektoen and Winfield S. Hall.

lar contractions with cardiac and respiratory distress, following total thyroid gland extirpation often were developed after the feeding of meat. They ascribed this circumstance to the mechanical irritation which the meat produced during its passage into the stomach.

The negative results of the experiments which I have just detailed in reference to nerve irritation, etc., in connection with several observations I had made in feeding boiled meat, led me to institute the experiments on the influence of the feeding of milk and eggs and raw and boiled meat on thyroidless animals.

These experiments consisted in keeping dogs on a diet of milk or milk and eggs for a number of days and then performing a total extirpation of the thyroid gland, or a partial extirpation and then finally a total extirpation and thereon noting the influence of a milk, egg, boiled and raw meat and beef-broth diet. It was shown that 30 per cent. of all animals fed on a milk or boiled meat diet, but particularly a milk diet, remained entirely healthy, but died when put on a raw-meat or beef-broth diet. All of my animals that were fed on raw meat from the beginning of the experiment succumbed to the operation.

These experiments then furnished the first evidence of the metabolic significance of the thyroid gland to the organism, and further, that a milk diet acts more favorably than a raw-meat diet in dogs in whom a total thyroid gland extirpation has been performed.

Following the publications of these results, De Quervain,[6] Rosenblatt,[7] Glinatz,[8] Glunzinki,[8] Lanz[9] and Blum[3] repeated my experiments and corroborated the conclusions I had reached, viz., that a milk diet acts more favorably than a meat diet after total extirpation of the thyroid gland.

Clinically the results of these experiments have been found to be of considerable importance. Thus, Nothnagel, in his chapter on myxedema, recommends the withdrawal of meat and the substitution of a milk and vegetable diet in the treatment of this disease. Rumpf, v. Ziemssen and Blum likewise recommend the same course of dietary in the treatment of thyroidal diseases. Professor Ewald, in his work on the thyroid gland, also states that the clinical application of the milk-feeding experiments is of great value in the treatment of various thyroidal conditions. He remarks:[10] The best results are achieved in the treatment of myxedema and cachexia strumipriva where a milk and vegetable diet is persisted in. Both Strich and Lanz independently came to the same conclusion.

Lastly, Moebius[11] recommends the same course of dietary in the treatment of Basedow's disease. I have been prompted to give a short sketch of these experiments and their clinical application for the reason that while most clinicians on the other side of the water lay considerable stress on diet in the treatment of thyroidal disease, American clinicians have paid little or no attention to the subject.

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The great secret of success in life is to be ready when your opportunity comes.—Lord Beaconsfield.

THE CHEST-PANTOGRAPH.

ITS PHYSIOLOGIC SIGNIFICANCE AND ITS CLINICAL APPLICATION.*

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CHICAGO.

Not long ago a prominent clinician of Chicago requested the writer to contrive an apparatus by which chest contours could be accurately measured and recorded. Such an instrument was said to be needed by those who specialize in diseases of the thorax or who have any occasion to record thoracic conditions for statistical or other purposes.

The writer's first attempt to solve the problem given him by the clinician was a rather expensive experiment, with an instrument which consisted of about twelve curved lever arms, which came down to the thoracic walls, touching its circumference at any desired plane. The short arm of these levers was provided with a needle which pricked in a paper a line of holes which represented the chest contour. This was found to be a faulty apparatus in several important points, and it was discarded.

One day the writer saw an artist making charts for lecture room use, by enlarging figures from a book, the

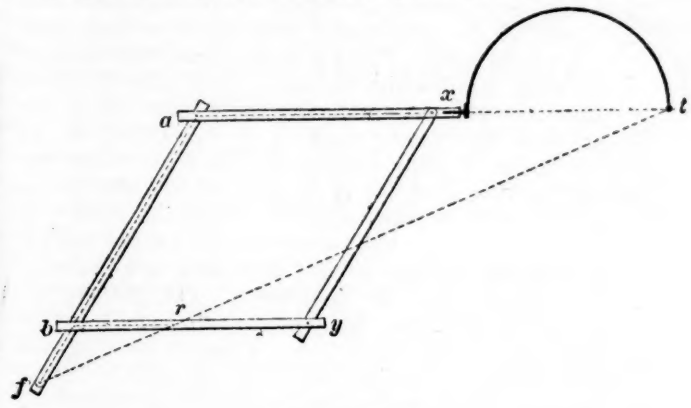

Figure 1.

outline of the figure being traced with a pantograph. The idea of reversing the process and making a reduced outline of the chest was adopted, and the first apparatus made was a success.

Figure 1 shows the instrument, which is constructed of brass or wood, with brass or steel semicircle. The joints, *a*, *b*, *x* and *y*, move easily in the plane of the instrument. The semicircle, 40 inches in diameter, rotates at *x* around the diameter *tx*. The point *f* is fixed to a table. With *f* a fixed point, all movements of *t*, the tracing point, are accompanied by corresponding movements of *r*, the recording point. The triangles *frb* and *fta* are similar triangles in all positions of the instrument. If these two triangles are similar, their corresponding sides must be proportional, therefore, *fb:fa::fr:ft;* but *fb:fa::1:5*, therefore, the distance *fr* is always one-fifth the distance *ft*. In other words, the recording point, *r*, which is represented in the instrument by a pencil which records its movements on ruled paper, is always one-fifth as far from the fixed point, *f*, as is the tracing point, *t*. This recording point, *r*, moves in the same direction as the tracing point, *t*, the only difference being that it moves only one-fifth of

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. Alfred Stengel, L. Hektoen and Frank B. Wynn.

the distance through which *t* moves. This results in the formation on the paper of a contour tracing of the thorax, absolutely accurate in every curve and diameter, except that it is reduced to exactly one-fifth the actual dimensions.

The object of the semicircular arm is, of course, to permit the tracing point, *t*, to be carried around the thorax. The seat on which the subject sits may be adjustable in height, or the table on which the instrument is fastened may be adjustable in height; in fact, it has been found that there is advantage in having both an adjustable table and an adjustable seat. If one wishes to take contours at various levels of the body between the shoulders and the pelvis, there should be a back rest to keep the subject's body from swaying backward and forward or from side to side. This back rest can take the form of a simple rod about one foot in length, inserted into the edge of the table. This rod should extend out horizontally and at right angles with the edge of the table, and should be located opposite the point in the table where the pantograph socket is fastened to the top of the table.

With all these conditions satisfied (and they are not difficult conditions), let the subject to be examined sit beside the table, with table and seat so adjusted as to bring the plane of the thorax to be examined into the plane of the instrument, that is, on a level with the top of the table. Place a sheet of the record paper on the table parallel with the sides of the table and held in place with thumb tacks. Let the subject inflate the lungs, place the tracing point, *t*, on the distal side of the thorax at a point marked on the skin; sweep the tracing point around the posterior aspect of the thorax to a point on the proximal side; rotate the semicircle so that its convex side will be anterior; sweep the point, *t*, around to the starting point. You have now traced a contour at the end of inspiration. Let the subject exhale to the position of repose, or, if desired, to the position of forced expiration. Then retrace in the opposite direction, and the result will be such as shown in Figure 2. This tracing has the advantage of showing the general type of the thorax, and the relative diameters in any direction. It shows the amount of expansion, and, furthermore, it shows whether or not this expansion is symmetrical.

The accompanying figure shows two such contours from healthy, well-developed men. Two millimeters in the figure equal one centimeter of actual measurement. The inner contour is that of forced expiration, while the outer one is that of forced inspiration. In contour A the increase of lateral diameter by forced inspiration is 2 cm., while the increase of dorsoventral is 3 cm. In the same contour the cross sectional area of the thorax in the plane of the ninth rib is represented by 25.52 of the larger squares containing 25 square cm.; total area equals 637.5 square cm., while the cross sectional area of the chest in forced expiration is 517.5 square cm. Forced inspiration shows an increase of 120 square cm., or about 23 per cent. over cross sectional area of forced expiration. Furthermore, both contours show a prominence in the right side (left of the figure) possibly due to stronger musculature on that side.

The instrument accomplishes the purpose for which it was intended, and seems to be well adapted for use in all cases where chest contours are desired for either clinical or statistical purposes.

Any abnormalities in contour, even slight though they may be, are instantly made apparent in the outline, when an inspection would not reveal them and measurements of diameters would do so only after a laborious comparison of results with tables of average and typical measurements.

The general character of the chest, whether flat or deep or normal, is also made apparent to both observer and subject, and the record is an important part of the data which indicate a line of exercise to develop those dimensions which are below grade or to diminish dimensions which may be abnormally large. One's thought turns in this latter instance to cases of "pigeon-breast" in boys, cases which, even in mild degrees, are made strikingly apparent in the contour, and cases in which the influence of proper exercise in early youth may be wholly corrective or decidedly ameliorative.

The insurance examiner, the physical examiner of the Y. M. C. A. or of the college gymnasium, the physical examiner for the army and navy, as well as the specialist in chest diseases, will at once see the utility of having these records of chest contours.

In closing, the writer wishes to call attention to some of the advantages of this instrument over other instruments which are intended to accomplish a similar purpose:

1. The chest pantograph is so simple in construction that it does not easily get out of adjustment and can not readily be injured in use.

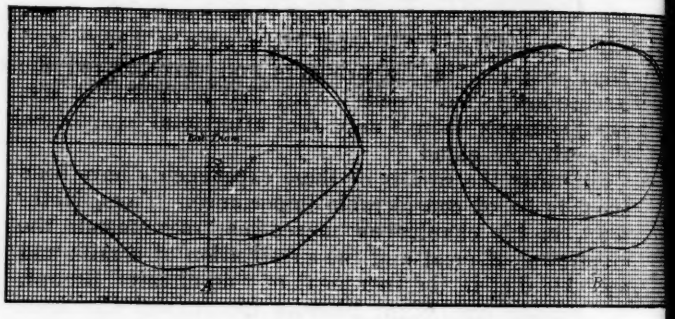

Figure 2.

2. It is inexpensive.

3. It is compact; when not in use it can be folded back along the back of an office table or lifted from the table socket and hung on the wall.

4. The record is accurate, and is reduced in size to dimensions readily adapted to filing away with clinical records.

5. The record being a graphic one appeals at once to the eye and reveals all divergencies of the contour from the normal without the necessity of reference to tables of averages.

An Unheeded Peril in Preserved Meats.—Giovanni Grixoni has found that the fluidification of the gelatin contained in cans of meat, and in bottles of concentrated broth is a very certain sign of damage, even when other signs are lacking. This fluidification is due to the action of living bacteria and trypsinic ferments secreted by them. Peptonized preserved meats have toxic powers, for, whether inoculated into, or eaten by rats and mice, they cause their death. The toxins produced in fluidified preserved meats have a powerful antibacterial action, prevent the development of putrefaction, and are soluble in water. They are destroyed by a temperature of 100 C. Serum diagnosis in infections of alimentary origin is an excellent method for the recognition of the etiological agent. The prolonged presence of microbes in the can profoundly modifies their biological properties, prevents their development, and finally causes their death. Cans containing living germs, even if these are saprophytic, should be excluded from the dietary. —*La Rif. Med.*

NERVE NOSTRUMS AND THEIR DANGERS.*

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SONYEA, N. Y.

Nerve nostrums and their dangers constitute a subject far too comprehensive for full discussion in the brief time at our disposal, and we will omit the presentations of facts that aim to show what a race of nostrum makers and nostrum takers the American people are coming to be, and take up other matters connected with the subject that should engage our undivided attention, and which are as follows:

1. Why do people take nerve nostrums; or, indeed, nostrums of any kind?

2. Wherein does the use of nerve nostrums tend to impair the public health?

3. What measures, if any, can we take to lessen or destroy the nostrum-taking habit?

Longfellow plainly expressed a lack of faith in, if not contempt for, nostrums when he wrote

> Purge with your nostrums and drugs infernal
> The spouts and gargoyles of these towers; not me;

and reference to the meaning of the word "nostrum" shows at once the secret of the power they possess over the public mind.

"Nostrum," says a high authority, means "a medicine the composition of which is kept secret"; "a quack medicine"; and the key to the whole situation lies in the word "secret." The element of mysticism always holds our interest. It is that alone which gives the juggler's trick its charm. Remove our ignorance as to the manner in which the trick is done, and simultaneously you destroy our interest in the method of its performance.

Venders of nostrums, with a fine show of commercial shrewdness out of all proportion to any sense of common virtue, understand this frailty, this very common lack of logic on the part of the public mind, and trade freely on our credulity purely for commercial gain. They approach us from every side, in every place, and under all possible guises, with the most marvelous and glowing propositions designed to catch the public eye; then feed the little flame so adroitly kindled by dosing us with things about which we know nothing, and which we are pleased to swallow, in testimony of our simple faith.

The quack's secret is his own and forms his most valuable stock in trade, and often enough it is his only asset. Remove the seal of secrecy from his nostrums and his business of ruthlessly despoiling the public health and depleting the individual purse for the sole purpose of enhancing his own financial gains, will disappear like the mist before the rising sun.

Taking up the second proposition, viz.: Wherein does the use of nostrums tend to impair the public health? We may answer that the empirical use of any drug for the cure of a given disease is less logical and less scientific than if that drug produced specific action necessary for the relief of specific morbid conditions. This makes empiricism the basis on which nostrums are supposed to act; and this in itself might not be so bad in some cases if the disease for which the individual is being treated had first been correctly diagnosed.

But that is far from being the case. The mail bag with the quack takes the place of the instruments of precision and personal judgment of skilled physicians, so that the quack is doubly handicapped in his attempts to treat disease; first, by not knowing the nature of the disease he is treating, and secondly, by having to rely entirely on the less scientific principles of empiricism as compared with more rational forms of therapy.

Nostrums, however, do sometimes seem to effect a cure by suppressing the activity of symptoms in diseases like epilepsy. But, after all, it is only suppression, and not cure. In the Craig Colony report for 1898 we spoke of the matter as follows:

> And so it is that the manufacturers of patent nostrums and the great army of quacks who thrive throughout the land, find in the epileptic their readiest victim. They beguile him with vivid representations of wonderful cures and then deliberately set about to rob him of his honest means, and what is worse, of what little vigor of constitution he may possess. He is deceived with a drug that suppresses his attacks for a little time, but which does not cure, and which must be taken in such large doses that in time it destroys his mind and ruins his physical health. We are not giving hearsay evidence, but facts, and to make sure of such facts we tried one of the "surest cures" at the colony with the result that two patients were made temporarily insane.
>
> A young man of excellent family and personal attainments was admitted to the colony whose malady for the past year had been rapidly growing worse, and who had in his possession at the time of his admission 26 separate and distinct quack and patent remedies, all of which he had been using to some extent. He was at once relieved of them, with the result that he at once began to improve.

Two years later, after having collected much additional evidence of the infinite amount of harm nerve nostrums do in cases of epilepsy, we again referred to the matter in our annual report, citing the following case:

> C. B. M., a young boy, died at the colony September 24, from the direct effects of much drugging with "R.'s Nervine." He came to the colony first in January, 1897, remaining here a year and going away very much improved.
>
> While here he attended school, made very satisfactory progress and bid fair to be able in a few years to return to his home and take up some vocation. After returning to his home, he grew rapidly worse. He was then made to take "R.'s Nervine" in large quantities. He rapidly became stupid and apathetic, his circulation sluggish, his skin harsh and dry and his body covered with sores. Still his parents could not see that "R.'s Nervine" was the cause of the boy's deplorable condition and continued to give him the poisonous drug. He soon became so bad that he was returned to the colony, but the drugging with the nostrum had gone too far; he did not respond to proper treatment and died very shortly after his readmission. His mental condition, when he came back, resembled that of most pronounced primary dementia.

Numerous other instances similar to this, but in which the nostrum treatment was stopped before it had gone so far, have come under our observation; and we know that nostrums for other nervous diseases produce effects equally as disastrous; and the giving of powerful drugs to patients, concerning whose drug idiosyncrasies he is ignorant, is but another of the quack's dishonorable methods.

We come now to the third proposition, by far the most important of all, and that is: What means, if any, can we take to lessen or destroy the nostrum-taking habit? A well-known clergyman in the city of Rochester lately said, in a public speech, that "the widespread practice of such arrogant quackery as that which universally pertains to-day is a blot on every honorable physician's escutcheon"; and I fear the indictment stands on solid ground.

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As guardians of the public health, it is plain that the suppression of quackery is a duty we have not yet fulfilled. To make any impression for good on the unsavory practice will be a long and tedious uphill task, but this ought not to deter us for a moment, and it would seem that now, since the prospects seem so fair for cementing into a closer fraternal union the physicians of the entire country, is a good time to start the work on its way.

There are three things I have to propose that would be effective in lessening or destroying the nostrum evil. Two of them, while less effective than the third, are easier of application; while the third, which would be wholly effective in itself, could only be given force through national legislation.

The first is, an arrangement by which a continuous series of articles could be written for publication in the leading medical journals of the country, and which would specifically and unmistakably set forth the dangers of advertised nostrums; the same articles being afterwards published in the daily papers and in the literary magazines, in the form of standing advertisements if need be. Having the authoritative backing of the best medical journals, such matter would be bound to command attention and respect on the part of the public.

The second plan is to inaugurate in every city a course of lectures to show the evils of indiscriminate medication through patent nostrums, making the object lessons plain and forceful and placing the lecture course on a popular basis.

To carry out these plans would cost something, but there is no question that the money could be raised, either through private contributions, or by an assessment against the members of the medical profession.

The third plan, and the only one bound to be entirely effective if once established, is to have a national law regulating the manufacture and sale of nostrums and the practice of quackery, the feasibility and utility of which has been demonstrated in many countries abroad.

In Austria the sale of any nostrum or arcanum is strictly prohibited, and proprietary medicines may be sold only if their ingredients and the manner of compounding them have been made known. Such medicines, however, can not even then be purchased without physicians' prescriptions, unless they have been designated by sanitary authorities as harmless.

In the same country the law even undertakes to regulate the price to be charged for such preparations, for it provides that whenever the reasonableness of the price of a proprietary medicine is questioned, it shall be rated on the basis of the official tariff approved by the Austrian pharmacopeors. It is evident that patent medicine men do not become millionaires in Austria.

In Belgium the law holds a pharmacist responsible for every drug sold by him, which provision applies to proprietary articles as well as to all others, and requires that in the sale of proprietary articles the composition of the same in detail shall appear in connection with its label.

The French government, the most advanced of any of the nations in this respect, in order to carefully guard the health of its citizens and to prevent the evils arising from the manufacture and sale of deleterious drugs and compounds, has from time to time passed strict laws and regulations covering the practice of pharmacy and the preparation and sale of chemicals for industrial and commercial purposes. The sale of medicinal compounds or remedies, the ingredients of which are only known to the proprietors, is absolutely prohibited in France. The law requires the inventors or owners of such remedies to communicate the formula of their preparations to the minister of commerce, with the list of diseases to which they are applicable, and a statement of the actual trial to which the medicines have been submitted. The National Academy of Medicine then examines the composition of the remedies to ascertain if their administration might be dangerous in certain cases; if the remedies are good in themselves; if they have produced or will still produce beneficial effects on humanity; the proper price is paid by the government to the inventor of a remedy recognized to be useful. This recompense is based on the merit of the discovery, on the advantages which have been obtained or which are to be obtained in curing human ills and on the personal advantages which the inventor has already derived from the remedy or may hope to derive from its adoption. An agreement is then drawn up between the minister and the inventor, ratified by a higher authority, and the secret published without delay.

In Germany the use of patent nostrums is greatly discouraged by the German government, and every notice or advertisement of this class of preparations must distinctly embrace an accurate analysis of the ingredients or component parts used in such preparations.

In Russia no proprietary medicines are allowed to be manufactured or sold, this country going further than any other by absolutely prohibiting the manufacture and sale of nostrums of all sorts.

With the English-speaking races it is radically different. In the Dominion of Canada the utmost latitude is allowed in the sale of such things, for they are sold in all grocery stores, the proprietors of which sometimes underselling the regular wholesale trade.

The same state of affairs exists in British Honduras, grocery stores here dealing in many of the ordinary drugs that are only sold by licensed apothecaries in this country.

In Brazil the law respecting the sale of chemicals, medicines, poisons and other proprietary articles is very strict, and if enforced can not help being of great benefit to the public and a protection to the physician, pharmacist and the druggist.

The Chinese government, on the other hand, has no laws regulating the sale of drugs. Chinese merchants, however ignorant of pharmacy, are permitted to sell drugs so long as they pay what is known as the "liken tax"; and to show the lax manner in which medicines are used in China, the United States Consul translates a prescription for "weak and diseased lungs," consisting of a "decoction made from gentian, apricot kernels and seven other medicines," without in any way indicating the name or nature of the last seven.

When the medical profession of this country decides to enlist the aid of Congress in formulating laws regulating the manufacture and sale of nostrums, it would seem that they might do well to try and avoid, on the one hand, the Scylla of overcaution, such as pertains in Russia, and, on the other, the Charybdis of utterly false therapeutic license run riot, such as pertains in China, and adopt a midway standard at once just to all, sensible and practicable, like that now in force in the French Republic, and which had its origin under the reign of the Emperor Napoleon in 1859. To aid in the enactment of such legislation would seem to be a

most natural thing for the Association to do, for its Code of Ethics reads as follows:

It is derogatory to professional character for a physician to prescribe or dispense a *secret nostrum* whether it be the composition or exclusive property of himself or others. For if such nostrum be of real efficacy, any concealment regarding it is inconsistent with beneficence and professional liberality, and if mystery alone gives it value and importance, such craft implies either disgraceful ignorance or fraudulent avarice.

And, in conclusion, it seems pertinent to ask why the present is not as good a time as any for the American Medical Association to discuss plans for taking the matter to Congress in Washington.

HYPNOTICS, ANALGESICS AND RESULTANT DRUG ADDICTIONS.*

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Insomnia and pain are the banes of existence of the patient with any nervous affection, and from his standpoint are in themselves the maladies from which he is suffering. He prays his physician for relief from one or both, knowing, alas too well, that the market is full of drugs that will bring him relief. It does not often occur to him that the physician has any more complicated mental process to go through than merely to choose the right drug to bring healthful sleep and to banish pain. Insomnia and pain may each be the cause of the other, or they may be the outward symptoms of an exceedingly complex condition of derangement.

CLASSIFICATION OF INSOMNIA.

In trying to study the causes of sleeplessness I have found it helpful to remember the classification of insomnia that Sir James Sawyer lays down in his "Contributions to Practical Medicine." He says:

Cases of insomnia seem to divide themselves naturally into two groups, namely, of cases of what may be called *symptomatic insomnia*, and of cases of what may be called *intrinsic insomnia*. Symptomatic insomnia attends a vast variety of morbid states, and is secondary to them, or is part of them. Intrinsic insomnia, or insomnia per se, is a kind of wakefulness that seems to depend on the inability of the brain to adapt itself to the conditions of sleep.

Symptomatic insomnia, or the sleeplessness that is one of the symptoms of a disease attended by severe pain is not so difficult to treat, provided the pain, or the elevation of the temperature, or the coughing be the only cause. We may control it either by using hypnotics or sorporifics, or by giving drugs that will reduce the fever or diminish pain, or stop the cough; or we may combine the treatments, and use sorporifics in conjunction with the remedies that will remove the causes of pain or fever.

The family physician who uses sulphonal or trional for the purpose of inducing sleep in severe illness, employs one of the most valuable aids to recovery, for sleep as a natural remedy in disease is as necessary as any therapeutic remedy. But, at the same time, these drugs, if used continually, will of themselves cause the worst kind of insomnia, that in which natural sleep is absolutely impossible without the aid of a drug.

Intrinsic insomnia, to refer again to the classification of Sir James Sawyer, is due to various causes, which he divides into three groups, viz., the *psychic*, the *toxic* and the *senile*.

Psychic Insomnia.—It is taught that the brain in natural sleep is relatively anemic. When the brain is in full working activity the cerebral arteries are well filled with blood from which the brain cells are rapidly receiving nourishment and ridding themselves of waste. During sleep the blood flows more gently and in smaller streams through the brain; and the brain cells are not expending energy, but are storing it up. Anything, therefore, which tends to keep up the activity of the brain cells and keeps the blood circulating freely through the brain tends emphatically to keep the brain cells from repose and the patient finds himself sleepless. The psychic causes of such brain activity may be the habit of thinking over business or work after going to bed, worry, anxiety, excessive mental work that will not let the brain cells cease working for several hours after the real work stops, sudden grief or shock, or form of preying sorrow, remorse or loss of hope.

Toxic Insomnia.—The toxic causes of brain activity are due to some poison, that maintains the arterial supply of the cortex of the brain at such a height and so long that wakefulness is inevitable. These poisons may be in the form of drugs that have become a habit; alcohol, or the milder stimulants of tobacco, tea or coffee, or, on the other hand, the poisons may be certain accumulated waste products of the patient's own metabolism.

Senile Insomnia.—Senile causes of sleeplessness are due to the age of the arteries. As the smaller cerebral arteries lose their elasticity their walls grow weak, and they are physically unable to regulate the flow of blood to the brain which ought to be diminished at night to cause the sleep of youth.

On this brief classification of the causes of insomnia I would establish an outline of the kinds of treatment that are recommended by men of wide experience, with a discussion of the question of how far hynotics may be used to relieve insomnia and analgesics employed to alleviate pain without danger of resultant drug addiction.

THE DECLINE OF STOICISM.

In the first place, I would say that the demand for relief from minor pains and slight insomnia has increased with the supply of remedies. Although my experience is limited to some ten or twelve years of practice, and I can not with authority compare the older days with the present, yet I think I may safely say that people, as a rule, do not bear pain as bravely as they did before the days of anesthetics, analgesics and hypnotics. Such scenes of fortitude as Ailie's operation in Dr. John Brown's story of "Rab and His Friends," are, we are thankful to say, unnecessary now; but at the same time the day is past when women bore the pain of cancer, or the knowledge that they were dying of a tumor, to their graves without opening their lips to anyone save their physician. The brave serenity of spirit showed by Sydney Lanier, who was carried to his class room to give his lectures, and who never permitted his illness to be mentioned, and the gay stoicism of Robert Louis Stevenson, whose only reference to his hemorrhages were as to his friend "Bloody Jack, who was with him that morning," are examples of that heroism in suffering which I believe has become much more rare with the introduction of the many pain-relieving remedies.

Any sufferer may to-day, at the cost of ten cents, purchase temporary relief from a headache that is due to overwork, or an artificial night's sleep where sleep should have come naturally. To suffer is no longer deemed

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. A. W. Baer, A. B. Lyons and W. J. Robinson.

brave, it is deemed ignorant; but the little knowledge that will bring relief is too often a dangerous thing.

The result of this easy and sure means of obtaining relief has led patients, and sometimes physicians, to be too easily satisfied with relieving pain and giving artificial sleep instead of ferreting out the cause of the trouble and removing it, as they were obliged to do in the old days if they would stop pain.

I do not purpose to speak of drug habits acquired by patients who treat themselves, except to say that every analgesic and every hypnotic is dangerous if used indiscriminately; and that all patients should be emphatically warned that there is nothing that they can take regularly and persistently to relieve pain or sleeplessness without doing themselves permanent injury. Paradoxical as it may seem, the least harmful drugs are often the most deadly. Fewer men and women ruin their nerves by the abuse of chloral than they do by the use of bromids. I have had many patients the victims of the bromo-seltzer habit, who took high moral grounds against the use of morphin and chloral. I have entered a business man's office and seen it stocked with a winter's supply of bromo-seltzer, with which he proposes, as was his wont, to ward off his regular afternoon headache; and I have had as hard a fight to bring him, by means of travel, exercise and diet, to a normal state of health as in breaking a morphin fiend of his habit.

It would greatly lessen the dangers of drug habits if family practitioners would encourage patients to endure a certain amount of the pain and sleeplessness of general diseases, never saying, "I will leave you something perfectly harmless that will make you sleep"; or, "I will give you something very new and very powerful that will stop that pain in ten minutes." The drugs for relief should, as far as possible, be combined in prescription with the drugs that treat the disease, or left without name or emphasis to be taken at the right time. In almost every case the abuse of phenacetin, antipyrin, acetanilid, the salicylates and allied products has begun by a physician calling especial attention to the efficacy and harmlessness of these drugs first prescribed to ease the pain and sleeplessness of some acute disease, such as tonsillitis or grippe.

THE USE OF FAKE SYNTHETIC FORMULÆ.

In this connection I can not refrain from calling attention to a large number of combinations of well-known drugs of this class that are given fake chemical formulæ, and which, while substantially mixtures of such remedies as antipyrin, acetanilid, phenacetin and allied synthetics, yet nevertheless are claimed to be new and important synthetic discoveries. It is to be regretted, moreover, that there are to be found physicians who will describe at great length and in much detail the wonderful cures which have resulted from the use of some of these impossible synthetics. All honor should be paid and support given to the enterprising chemist who has devised a really good new product. The profit that he may make from it is legitimately his, but physicians, as a class, I believe, are too prone to accept unchallenged the statements of some manufacturers who put out misfit combinations.

It is not expected that we as physicians should bear always in mind the chemical lore of our laboratory days, but a more careful scrutiny of the great flood of newer synthetics is advisable if not imperative. Moreover, when it is to be borne in mind that many of these so-called newer synthetics are sold for from fifty cents to one dollar an ounce, when their constituent parts may be purchased for from ten to twenty cents per pound, the robbery is made possible only under the guise of a trade name, and if the education of the physician is not sufficient to protect the public, then legislation is imperative.

HOW TO TREAT INSOMNIA.

As a rule the few doses of such drugs that are necessary to bring relief in acute diseases, whether to ease pain or to bring sleep, lead to no habit. As soon as the body has recovered its tone, and so soon as the cause of the pain is removed and the pain itself has disappeared, the body does not crave a repetition of the drugs. Even opium, in any of its forms, can be borne well and leaves no bad effect when intelligently prescribed. The sole danger in such cases, I believe, lies in the fact that the patient knows what has given him relief, and will, inevitably, tamper with the fascinating drugs when he has some minor ailment in the future. He then almost invariably runs a twofold danger: by continually giving himself relief from a pain that ought to be investigated he ignores the cause of his pain until his disease is pronounced, and in the meantime has by repeated use of the drug habituated his nervous system to overstimulation.

These cases in which pain and insomnia were at first merely secondary phenomena form a large percentage of the patients who afterwards come to us to be treated for the toxic form of insomnia *per se*.

In the severer grades of psychic insomnia it is often necessary to secure a few nights of artificial sleep at any cost; for the sleep of itself will in a few days induce sleep and the doses may be tapered off, or the need for them will stop naturally. In the cases of insomnia following sudden shock, great mental excitement, the anxiety attendant on strain of business, or the nervous state of worry in women that is accompanied by a hysterical breakdown, it is wise to give hynotics and to induce sleep until the body is thoroughly refreshed. In such cases many physicians prefer, I think, with good reason, opium or chloral, or their combination, although of late years the use of trional and sulphonal with some of the modifications of chloral, chloralamid, etc., have given excellent results.

Sir Lauder Brunton has suggested with much wisdom that a combination of hypnotics is more successful than any one of them singly. He recommended the now well-known mixture of small quantities of morphin, chloral and the bromids, and this is a favorite combination of a great many of us.

POPULAR KNOWLEDGE OF OPIUM UNDESIRABLE.

Whenever opium enters into the prescription for the relief of insomnia or pain, too much caution can not be urged. This is an oft-repeated tale, and yet from the crop of habitués of this drug that I see yearly, it seems not altogether to have been learned. At the same time, it is my own firm conviction that there is too much popular knowledge of the effects of opium, and personally I should condemn in the strongest possible manner the practice of the Woman's Christian Temperance Union of imposing on the public the 10 to 25 per cent. of information regarding alcohol and opium which they make obligatory in the publication of school books. The giving to the young and immature a knowledge of the seductive activities of any agent is, in my humble opinion, a practice worthy of the severest criticism.

THE NEWER OPIUM DERIVATIVES.

But this leads away from the last topic of my paper, the new opium derivatives. These, heroin, dionin and

peronin, as is well known, are derivatives of morphin; modifications by chemical substitution of groups of atoms. They are distinctly not morphin, and their activities have definite and distinct individualities. The pharmacologist who would alone register blood pressure, respiratory activity and heart beat, may maintain that these drugs have an identical action; but he does so on very meager and insufficient data. The psychologic manifestations of the activities of these drugs are distinct and in the genesis of drug habits, the brain and its activities is the all-important factor, heart beat and blood pressure are secondary.

Of the opium habit I need say nothing; physicians are acquainted with its general features, but in this day and generation what may happen on account of this widening out of our therapeutic possibilities?

I believe that just as phenacetin, antipyrin and acetanilid, trional and the newer chloral combinations have so richly supplied the profession with weapons to attack pain and insomnia and have thereby lessened the danger of the opium habit, so the introduction of the new morphin derivatives will afford a like refuge for those patients for whom opium seems imperative. They will lessen the great amount of the morphin habit even if at times they may induce a habit of their own. That they do is no question, but I have dealt with this subject elsewhere.

To my mind the question of drug habits, so far as the physician is concerned, in large part resolves itself into a number of simple restrictions that we shall place on ourselves. These may be expressed as follows:

CONCLUSIONS.

1. Prescribe the drug which will do the work required to produce sleep or relieve pain, but let it be so graduated with reference to dosage and choice of remedy that it will be the least harmful if used steadily.

2. Keep our mouths tightly shut as to what we are using. Do not say, "Take 1 gr. phenacetin, 10 grs. of salol. ½ gr. of codein." Give it to the patient if necessary, but do not under any circumstances permit him to know what it is. That is a medical question, and if the information is imparted its circle of pernicious activity radiates further than we can imagine.

3. Wage incessant warfare on the many pirates who provide all sorts of reliefs to the public, going directly to them through the lay press and the magazines.

4. In conclusion, let it be remembered that the introduction of newer drugs, rightly set forth by honest chemists and worthy clinicians makes most desirable accessions to our armamentarium; but that false pretense and economic robbery of an unsuspecting public deserve united condemnation and opposition.

DISCUSSION

ON THE PAPERS OF DRS. SPRATLING AND JELLIFFE.

DR. FRANK WOODBURY, Philadelphia—The author referred to the laws of China, but not to those of Japan, which present a marked contrast. The Japanese government apparently modeled its regulations of the sale of nostrums on the plan of Austria. It requires the registration of actual formulæ, and if any are found which do not correspond to the formula their sale is forbidden under penalty. Furthermore, if any compound or preparation is considered by the health board as injurious or dangerous, its sale is absolutely prohibited. Finally, those that are shown to be useful have their price regulated, so that the sick shall not be charged extortionate prices. These laws are not only in marked contrast to the absence of regulation in China, but they are also far in advance of our own.

DR. H. C. WOOD, JR., Philadelphia—Most of the members of the American Medical Association have decided views on the subject of self-medication and on the dispensing of medicine by the physician who thus invades the province of the pharmacist. I think that this practice is attended by great danger to both professions, and to the patients as well.

With regard to the suggestion of Dr. Spratling about instructing the laity, I think that it would be better to remove the beams from our own eyes before attempting to remove the mote from our brother's eye. For instance, many of the preparations now in use among physicians are nothing more than secret preparations. Only this afternoon, in coming into the room, I picked up a circular containing the advertisement of a preparation made by Rigaud and Chapoteaut, which is not only advertised to the profession, but is also advertised to the public in the daily papers for self-medication. The remedy for this evil is difficult to find. Dr. Spratling has suggested popular lectures as a means of instructing the public; perhaps some papers read before medical societies might afford a good introduction to the general discussion of the subject.

The final recommendation is not possible in the United States. The sentiment of the people would be against it as being antagonistic to American ideas. Much, however, can be done by the proper exercise of legislative control. The greater part of the protection to nostrums is due to the copyright laws. Probably the protection by copyright is more than is needed. If the profession would try to overcome the copyright protection of nostrums, it would accomplish a great deal toward breaking up this kind of self-medication by the laity.

DR. W. J. ROBINSON, New York City—The papers are both valuable and timely. The suggestion that physicians should contribute articles to be published in the daily papers is a good one; but to pay for their publication would cost too much. If the articles were well written, no doubt the papers would be glad to get them as matters of interest to their readers.

I am surprised to hear Dr. Spratling's remarks on the careful regulation of the sale of patent medicines in France. I have been in France myself, and that is not the opinion that I would have formed from my own observation. There is hardly an old wall in Paris that is not covered with advertisements of proprietary articles, and the little kiosks, or public urinals, are covered with directions for self-treatment for venereal disease and lost sexual power, the remedies to be bought at all pharmacists. Possibly the laws are on the books but are not enforced. Patent medicines are everywhere in evidence in Paris, even the illuminated kiosks at night are covered with announcements of new nostrums.

With regard to the remark about patients bearing pain much less than formerly, I believe this to be true. We can not go into the lying-in chamber without taking with us a bottle of chloroform or ether, and we use them for slight surgical operations, often, indeed, against our better judgment.

A remark has been made about physicians of the present day giving simple substances, instead of the complex preparations that were formerly in use. This is in the direction of more accurate and scientific prescribing. This has been recognized by the Pharmacopeia, and the physician now has at his command many articles in the form of active principles and simple substances that it was impossible to get formerly, except in combination. This is a fact known to every chemist; but the average physician is slow to understand it.

About the evils of self-drugging, everyone present can recall instances. I recall a patient who took, every day, sixty grains of phenacetin, and who claims that when he goes without it he suffers with headache. It is impossible to say whether the headache is really caused by the want of the phenacetin or whether a phenacetin habit has become established. Another patient who had a syphilitic headache when a young man, and was cured of it by the biniodid of mercury, for years afterward was in the habit of recommending this drug to his friends when they complained of having headache.

DR. W. L. DICKERSON, St. Louis—I have observed that, just at the close of the sessions for the last four or five years, there has been brought up for discussion this most interesting subject when there are very few to discuss it and very little time to do it in. It seems to me that, in trying to regulate

this matter of the use of proprietary preparations, we must begin with the profession itself. The pharmacists of my neighborhood can always tell when an agent for a drug manufacturing house is going around visiting physicians, because on the next day there will be several prescriptions calling for these special articles to be put up. Physicians know absolutely nothing of the composition of many of these preparations, and yet they take the statements of the agents, or the advertisements, as their authority. Certainly if a man makes a really valuable discovery or contribution to medical science, he should receive the advantages derived from the sale, but in that event he should patent the drug, and then we would know what it is that we use, for the composition must be made known of articles that are patented.

With regard to the habit of self-medication with narcotics, I think that there is a danger of such habits being formed if the physician places prescriptions of this kind in the hands of his patients indiscriminately. I am in the habit, when prescribing for a patient suffering with pain, to give a tablet of morphin from my hypodermic case and give a prescription for whatever else may be required. In this way, the patient gets the prescription without the opiate and there is less danger of forming the habit by refilling the prescription.

DR. W. P. SPRATLING, Sonyea, N. Y.—The tone of one of the speakers would seem to indicate that general legislation could not regulate the manufacture and sale of proprietary medicines in the United States. Such may be the case, but I thing that the profession can secure some legislation if an effort is made. We can get laws to control the adulteration of food supplies, and I think the necessity for the protection of the public against injurious medicines is just as great in some instances as that of securing better food. The statements I made concerning the regulation of drugs in foreign countries was taken from consular reports made to the Department of State in 1898.

DR. S. E. JELLIFFE, New York—The proposition seems to me to be a very simple one, and one that could probably be settled in five minutes if we, as a profession, were all ideal ourselves; but we are not all ideal by any means. For instance, I have known this to occur: In New York City a very enterprising manufacturer devised a scheme to increase the sale of his particular produce. He issued pads, with printed prescriptions; each one had a coupon attached; for every one of these coupons representing orders sent to the drug store, the physician would receive 25 cents. If there are physicians of such character among us as to stoop to participate in a scheme like this, what can we say to the public or to the manufacturer of proprietaries?

COMMITTEE APPOINTED TO MAKE RECOMMENDATIONS.

DR. A. W. BAER, Chicago, moved that a committee of three members of the section be appointed on the subject of these papers, to report at the meeting of the section in 1903, making such recommendations as they think fit. The resolution was unanimously adopted and the chair appointed to serve on the committee, Drs. Baer, Robinson, and Wood.

A FURTHER STUDY OF THE INFLUENZA BACILLUS.*

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CHICAGO.

Of recent years such thorough study has been given by so many competent observers to systemic conditions produced by the *Bacillus influenza* in the human organism, that we may say we are fairly familiar with and able to recognize all the important points in the general symptomatology of influenza. There are special conditions, however, concerning which we are not so well informed, and to direct attention to what may be called "some of the atypical manifestations of the influenza bacillus" is the purpose of this paper. The pathologic states of the mucous membrane which may be produced by the growth and development of this micro-organism on them are of sufficient gravity to warrant careful consideration. During the past five years a great many hundred cultures which were made from inflamed throat, nasal mucous membrane, eyes, etc., have been examined and it has been found that many of these local disorders were dependent on the action of the influenza bacillus, and not on the pyogenic bacteria. In a report published in the Bulletin of the Chicago Department of Health, January, 1899, I referred to some of the pronounced local disturbances which had been observed to be due to the Canon-Pfeiffer bacillus. The numerous observations made since that time confirm the statements then made. Attention was called to laryngeal, pharyngeal, nasal and ocular conditions—all severe types which were caused by the influenza bacillus.

In cases which were clinically laryngitis pure cultures of this organism were frequently obtained. The patients in the majority of instances presented symptoms which did not vary from those of acute catarrhal laryngitis. A feeling of rawness, tickling sensation, hoarseness and disposition to cough were the usual manifestations. Occasionally the symptoms were decidedly croupy in character, marked hoarseness, difficult respiration and a harsh, ringing cough were present. The mucous membranes were bright red, and in severe cases much swollen. The bacilli were found in the expectorated sputa and also in cultures made from these secretions.

In other cases which presented the usual clinical aspects of pharyngitis and tonsillitis the Pfeiffer bacillus appeared to be the exciting cause. Many times I have made bacterial examinations of exudations from mucous membranes which were congested, red and swollen and found no other organism. In many instances coming under observation the throat symptoms were so marked that a physician would feel justified in pronouncing the cases diphtheria, yet the Klebs-Loeffler bacillus was not found, although repeated examinations were made. Redness, swelling of the tonsils and well-developed membrane—manifestations certainly suggestive of diphtheria—have frequently been demonstrated to depend on the influenza bacillus. Indeed, cultures have been sent to the city laboratory many times for diagnosis which were taken from cases in which the probable clinical diagnosis was given as diphtheria by the attending physician, but instead of the diphtheria bacillus being found the influenza bacillus has been obtained in conditions almost pure. The power of this organism to excite such grave local disturbances is deserving of thoughtful inquiry and greater consideration than has heretofore been given to it. The proper treatment demands it. Diphtheria antitoxin administered to a patient suffering with a diphtheritic inflammation dependent on the Canon-Pfeiffer bacillus would fail to produce the desired results.

It would seem that when the influenza organism enters the system its field of action is not limited to some particular part of the body as that of many other pathogenic bacteria, but that it attacks and spends its force on any and every organ which offers least resistance. A throat may become the seat of severe manifestations and exhibit clinical symptoms—as already noted—differing not greatly from diphtheria, or in milder cases, from tonsillitis. The stomach and intestines do not escape this minute fungus, its activity in the one case producing gastritis, and in the other a condition simulating typhoid fever. It may advance along the eustachian tubes and

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee: Drs. Arthur R. Reynolds, George Cook and Heman Spalding.

enter the middle ear and excite otitis media. It may find its way into the pleural cavity and develop pleurisy, a pleural effusion or possibly an empyema. It may enter the nasal cavity and cause an acute nasal catarrh, or a "cold in the head," with all the attending unpleasant features.

In the bulletin above referred to attention was called, in a paragraph which I quote below, to certain eye disorders which were produced by the Pfeiffer bacillus.

It has occasionally been observed by physicians that when influenza is present in a household the eyes of some members of the family suddenly become inflamed, accompanied by severe pain, swelling and redness of the conjunctiva, with a profuse discharge of pus. In that the disorder differed materially from ordinary acute conjunctivitis it was suspected that the *Bacillus influenza* might have something to do with the diseased condition. Cultures were made from the discharges, and the suspicion was verified by finding great numbers of the influenza organism.

Since these conditions were noted many cases of a similar nature have been studied, and like results obtained. The attention of the patient is usually attracted to his eyes because of a feeling which causes him to believe some foreign body has lodged on the conjunctiva. An examination at this time reveals a slight redness of both ocular and palpebral membranes. Very rapid development follows so that within a few hours the disease is well established. Abruptness of onset, rapidity of development and shortness of duration are the characteristic features of all the cases, whether mild or otherwise. At their height the severer cases presented symptoms strongly suggestive of blennorrhea, or conjunctival diphtheria. Pain, redness and swelling of the conjunctiva, discharge of pus and sometimes membranes were present, but, under antiseptic treatment, all these distressing manifestations disappeared as quickly as they came, thus marking the illness as different from gonorrheal or diphtheritic conjunctivitis.

Many cases coming under observation are worthy of mention; three, however, will suffice to illustrate the manner of action of the influenza bacilli when attacking this organ:

CASE 1.—Mr. O., aged 26, consulted me during the last week of March, 1902, with reference to his eyes. A few hours previous he became conscious that one of his eyes had somewhat suddenly become painful, and that almost immediately the other organ had presented a similar state. Believing that some foreign substance was the cause of his discomfort, he had by various methods attempted to remove it, with the result that he aggravated his condition. An examination revealed the ocular and palpebral conjunctiva much ingested and very red—the congestion being most pronounced at the fornix and on the lids. A watery discharge, which was slightly cloudy, collected at the inner canthus, from which cultures were made on blood serum. After twelve hours' incubation a number of colonies had developed, which were found to be made up of influenza bacilli. Sublimate solution, strength 1/5000, was ordered to be used every three hours. Within twenty-four hours after treatment was begun there was decided improvement, and at the end of a week the disorder had subsided entirely.

This case is a type of the mild form of infection with the influenza organism. The lids were not swollen or edematous, and the discharge at no time became thick or purulent, but remained a watery character. The milder cases are met with much more frequently than the severe types described below, and because of the color of the conjunctiva are referred to as "pink eye." Whether the Pfeiffer bacillus is the active etiologic factor in all cases of so-called "pink eye" I can not say, but that it holds a prominent place in the etiology of the majority of such infections I am inclined to believe.

CASE 2.—Mr. G., aged 47, while returning from his office, 5:30 p. m., March 7, 1902, became conscious that his right eye had rather suddenly begun to pain him. The sensation, as he thought, was due to particles of dust beneath the lids. Within an hour considerable swelling and redness of the conjunctiva and a watery discharge appeared. By 9 a. m. next morning—at which time I saw the patient—the pain was of a severe character, the swelling and edema so marked that the lids could be separated but little, and the discharge was of a thick mucopurulent nature. During the morning the left eye became involved, but did not present the severe symptoms that were present in the right. This less severe course I attribute to early treatment. The lids of this eye did not become swollen, the conjunctiva, however, both ocular and palpebral, were red and extremely sensitive, the discharge was watery in character, very little pus being present. Sublimate solution was used every two hours for twenty-four hours, with prompt and decided improvement. This same treatment was continued at less frequent intervals until the diseased state had disappeared, which was about five days in the case of the left eye, and eight days in the case of the right eye. Cultures made at the time of the first examination demonstrated the presence of the influenza bacillus.

A case of special interest has been observed by Dr. F. A. Phillips, Chicago, a report of which he kindly furnished me and which is herewith submitted:

CASE 3.—M. M., a little girl, aged 4, about 11 o'clock on the morning of Feb. 22, 1899, complained to her mother concerning her eyes. At this time a slight discharge was apparent, and the child seemed somewhat indisposed. During the next twenty-four hours the symptoms developed with great rapidity, so that, when the little patient was seen by myself at 6:30 p. m. on the same day, the eyes presented a serious inflammatory involvement. The lids were edematous and overlying; the integument was glazed and red, and the cilia matted with thick tenacious discharge. Only with difficulty could the child open the eyes, and then not to any extent. The swelling continued, and by 8 o'clock the upper lids became too heavy to be raised by the levators. By forcible separation and eversion false membranes covering both superior and inferior palpebral conjunctiva were exposed. The removal left small bleeding points. Beneath the superior ocular conjunctiva of both eyes a sub-conjunctival ecchymosis had appeared. There was no involvement of the cornea or iris. Mild constitutional symptoms were present—general languor, slight depression and low fever—which conditions were not observed in the other cases seen during the year.

Before instituting treatment cultures were made from the false membranes and surfaces beneath. These were examined by Dr. Wynekoop of the city laboratory, who reported the negative finding for all pathogenic bacteria except the bacillus of influenza, which seemed to be present in a pure culture. On the 24th inst., and again on the 25th, the treatment was discontinued for three hours and cultures made, which proved to be growths of the influenza organism.

The treatment was antiseptic in nature, and soon after its institution the conditions improved. The membranes reformed within five or six hours after their removal, but quickly disappeared on the use of sublimate solution. Recovery progressed steadily and by the end of the seventh day the edema had all subsided, the ecchymosis had faded, and only a slight hyperemia and thickening of the conjunctiva remained, which entirely disappeared soon after. Throughout its entire course the case was one presenting an unusual symptomatology. All the clinical manifestations—the sudden, severe beginning, the rapid development, and the comparatively rapid disappearance of the acute violent symptoms under treatment, without complication or sequelæ—were at variance with any other eye affections. These facts, together with the bacteriologic findings, led to a diagnosis of influenza.

The case reported by Dr. Phillips is one of the severe types and presents several interesting features which were not present in the other cases described, yet in general it followed the same course.

It deserves mention, as a matter of no small interest, that the clinical course of this local disease coincides in all the essential points with systemic or general infection, and that the duration and departure of the clinical conditions are in harmony with all the vital phenomena manifested by the influenza organism. Thus, the life cycle of the bacillus is short, a culture thrives but a few days, the resistance to harmful agencies is feeble, and under the most favorable surroundings the organism soon dies. Herein, perhaps, we find an explanation for the rapid recovery of the disordered eye when treated antiseptically. In view of what has been observed it appears that we have to do with a pathologic condition which differs materially from other acute inflammations of the eye. And in view of its abrupt and somewhat violent onset, its rapidity of development, its shortness of duration, and in view of the repeated findings of the bacillus of influenza, it would seem that we are justified in making a diagnosis of influenza ophthalmia.

In the *New York Medical Journal* of Feb. 1, 1902, appears a translation of an extract of a paper published by Dr. F. Rymowitch in the August, 1901, number of *Roussky Archiev Pathologyi, Klinitcheskoy Meditsinyi Bacteriologyi*. It appears that this observer has recently made a comparative study of the *B. influenza* and the bacillus of Koch-Weeks, and concludes they are one and the same organism. He finds that they are identical in morphologic, biologic and pathogenic characters. Both produced intoxication without a general infection. The most conscientious study did not reveal to him any differences between the bacteria, and he therefore believes that the bacillus of acute contagious conjunctivitis and that of influenza are the same. When attacking the mucous membranes of the respiratory tract the influenza bacillus produces influenza, and when affecting the mucus of the eyes produces acute contagious conjunctivitis, which disorder, according to Rymowitch, is the same as that produced by the Koch-Weeks bacillus. Not having had an opportunity to make a comparative study of these two organisms, I am not in a position to confirm or refute the observations made by Dr. Rymowitch. The subject is an interesting one, and because of its importance deserves further consideration, which I hope to give it in the near future.

THE FLY AS A CARRIER OF TYPHOID.

AN INQUIRY INTO THE PART PLAYED BY THE COMMON HOUSE FLY IN THE RECENT EPIDEMIC OF TYPHOID FEVER IN CHICAGO.

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CHICAGO.

During July, August and September of 1902 there was an unusually severe epidemic of typhoid fever in Chicago, which raised the death rate to 402 from this disease alone, as against 212 during the same three months of the previous year.

CHICAGO'S WATER SUPPLY.

The water supply of Chicago comes from the lake and is collected at five pumping stations: the Hyde Park station, which is two miles from the shore; the Fourteenth Street, four miles from shore; the Carter Harrison, two and a half miles; the Chicago Avenue, two miles, and the Lake View, two miles out. The Carter Harrison station is considered the best, the Fourteenth Street is almost as good. Specimens of water from each station are examined daily in the laboratory of the Chicago Board of Health and a bulletin as to the condition of the water at each is published in the daily papers. The state of the water varies greatly from day to day, and the practical value of these daily bulletins becomes somewhat problematical when one considers that twenty-four hours must always elapse between the collecting of the water and the published report, so that people who read on Tuesday morning that the water at a certain station is bad and take precautions accordingly are a full day late, for they were drinking the bad water on Monday. On the whole, such a statement as is made at the end of the week by the health department, "the water at this station averaged 60 per cent. good for the week," is really misleading, since nobody can ever know until too late which days made up the 40 per cent. bad. As a usual thing the water is worst when the rainfall is greatest, the sewage being carried farther out into the lake and contaminating the water at the intakes, except when there is the fortunate coincidence of light easterly winds, which, without stirring up the bottom, keep the sewage in toward the shore.

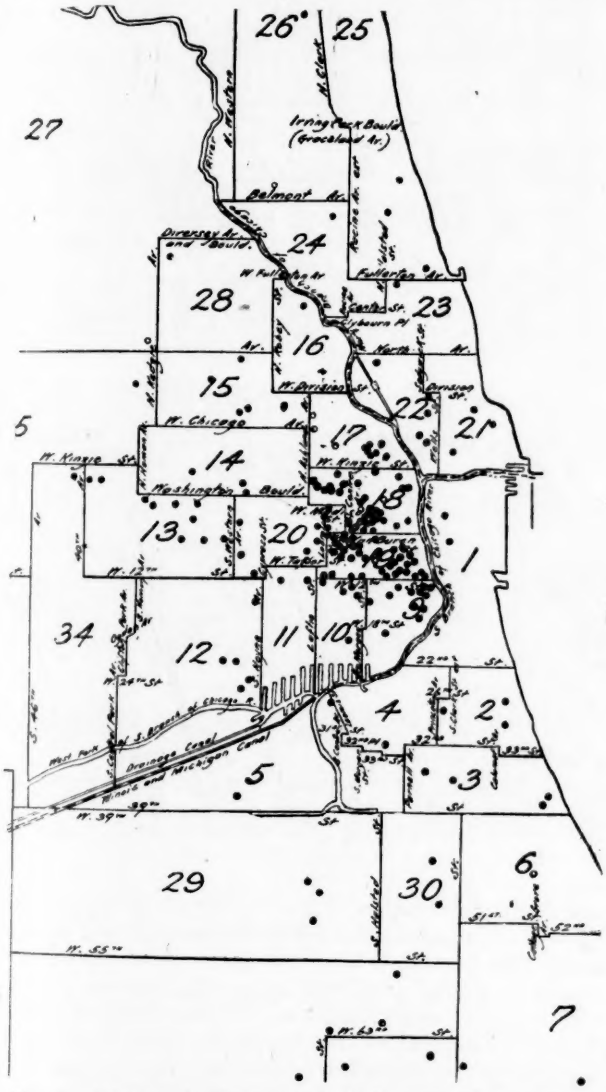
In discussing the causes of this greatly increased mortality from typhoid fever, Dr. A. R. Reynolds,[1] commissioner of health, speaks as follows:

"At the time" (the early summer) "there was nothing in the condition of the water to cause alarm. Notwithstanding the heavy rainfall of the previous months, the supply from all sources averaged 72 per cent. good (by 'good' in the laboratory characterization is meant a water free from pathogenic organisms, the colon group). But in the early part of August the typhoid deaths suddenly jumped up from a previous weekly average of 8.8 to 28 in the first week of August, to 44 in the second, and to 53 and 51 in the third and fourth weeks, with a total of 194 for the month, as against a total of 44 for July. As already stated, the water supply in July and previously was not of such a character as to account sufficiently for the increase of typhoid; but a study of the meteorologic conditions of the period beginning in October, 1901, reveals what are believed to be strong contributory causes. October, November and December, 1901, and January and February, 1902, were the dryest five consecutive months on record in 53 years. During the period only 6 inches of rain fell, instead of the average 11.84 inches. In November only 0.85 of an inch instead of the average 2.68, and in January only 0.64 instead of the average 2.07. There was no sewer-flushing rainfall during the entire period, and the city sewer flushing, always inadequate, was wholly suspended in January on account of the lack of funds. The sewers were congested with filth, of which typhoid stools formed a component part, and the surface of the earth, in city and country alike, was covered with the five months' accumulations. The water supply was, however, uniformly good, since there was little sewage movement. From March to July inclusive was the wettest season on record—a total precipitation of 23.73 inches instead of the usual 7.87 inches. The sewers were repeatedly flushed out, and the accumulated surface filth was washed away into streams, ponds and the lake. Under ordinary circumstances the water supply would have been repeatedly and grossly polluted. Fortunately, the wind movement during this wet period was unusually light and its prevailing direction was from the east—thus keeping the sewage-laden shore waters away from the tunnel intakes. In August a succession of high variable winds set in, the strongest being from the west. The lake bottom was vigorously stirred up by high wave action, the sewage was drifted to the intakes, and the water supply from all sources became so contaminated that it averaged only 38 per cent. good for the month.

1. Chicago Medical Recorder, 1902, vol. xxiii, p. 219.

CAUSES OF TYPHOID INFECTION ASIDE FROM POLLUTED WATER.

This pollution of the water supply was undoubtedly the greatest causative factor in the epidemic of the past summer, but there are one or two subsidiary factors which are not brought out in the report of the board of health, and which yet may serve to explain the peculiar localization of this epidemic. The accompanying Map 1[2] shows that a comparatively small area on the West Side was the region most severely affected. Within the limits of the Nineteenth Ward, which contains only one thirty-sixth of the total population of the city, there were between one-sixth and one-seventh of all the deaths



Map 1.—Showing the central part of Chicago and the approximate locations of typhoid fever deaths in August, 1902. (For map showing the entire city with the source of water supply and the sanitary drainage subdivisions, see THE JOURNAL, Dec. 20, 1902, p. 1563.)

from this disease. This part of the city is inhabited largely by working people. It contains one of the largest Italian quarters, most of the Greek colony, a small Bohemian colony, the northern end of the Jewish quarter and the western part is chiefly American-Irish. So far as the general intelligence of the inhabitants is concerned, their knowledge of the laws of hygiene, their general housing conditions, cleanliness, overcrowding, etc., this part of the city does not differ from the other semi-foreign quarters, yet it suffered much more than any in this epidemic. Evidently there must have been some local conditions which favored the spread of the infection. The drinking water alone could not be responsible, for this part of the city is supplied from the Chicago-avenue and Fourteenth-street tunnels, the same water supply as that for the whole region between 47th and Lake streets, Canal street and Western avenue. Nor could the milk be chargeable, for though in this neighborhood the milk is often badly diluted, yet it averaged quite as good as that supplied to a prosperous residence district to the west, as shown by analyses made of the milk of both districts by the University of Illinois in 1898.

FAULTY SEWAGE CONDITIONS.

To those who studied the distribution of the cases of typhoid fever it soon became evident that the number was greatest in those streets where removal of sewage is most imperfect. This is an old part of the city, the sewers in many of the streets were laid before the great fire, at a time when the neighborhood was more sparsely settled and when usually not more than one family occupied each house. Adequate at that time, they are far from adequate now, and it takes only a moderate increase in the rainfall to make the sewage back up into vaults and closets, while clogging is of common occurrence in dry weather. The yards and closets are often below the level of the street and are therefore easily overflowed. Last spring during the flooding rains it was no uncommon thing to see one of these yards, from six to fourteen feet below the level of the street, covered with several inches of foul water which in the neighborhood of the privy was distinctly sewage-contaminated. In this way the earth of the yards and that under the basement tenements became soaked with diluted excreta.

This condition of things is made possible by the primitive arrangements for the disposal of dejecta which prevail in this part of the city. Two of the residents of Hull House, which is situated almost in the center of the typhoid district, made a careful house-to-house investigation, noted the conditions as to drainage in each house and also the number of cases of typhoid fever which had appeared in each during the three months in question. The results are shown in the accompanying Maps 2 and 3. It may be remarked in passing that there was no other way of ascertaining these facts except by such a house-to-house canvass. There are no records in Chicago of sewer connections which antedate the great fire. The records were destroyed at that time and have never been replaced.

It will be seen from the maps that the methods of disposal of excrement in this neighborhood have been divided into five classes. The first class includes such equipment as complies with the law: plumbing with adequate water-flushing, traps and a periodically cleaned catch basin; in other words, modern sanitary plumbing. This form of plumbing was made obligatory for all buildings by an ordinance passed in 1896. The second class includes imperfect plumbing or legal plumbing so much out of repair that the excrement is not completely carried away. In several instances very bad leaks were found, the fluid overflowing on to the floor, and in two instances trickling through the ceiling and dripping into the tenement below.

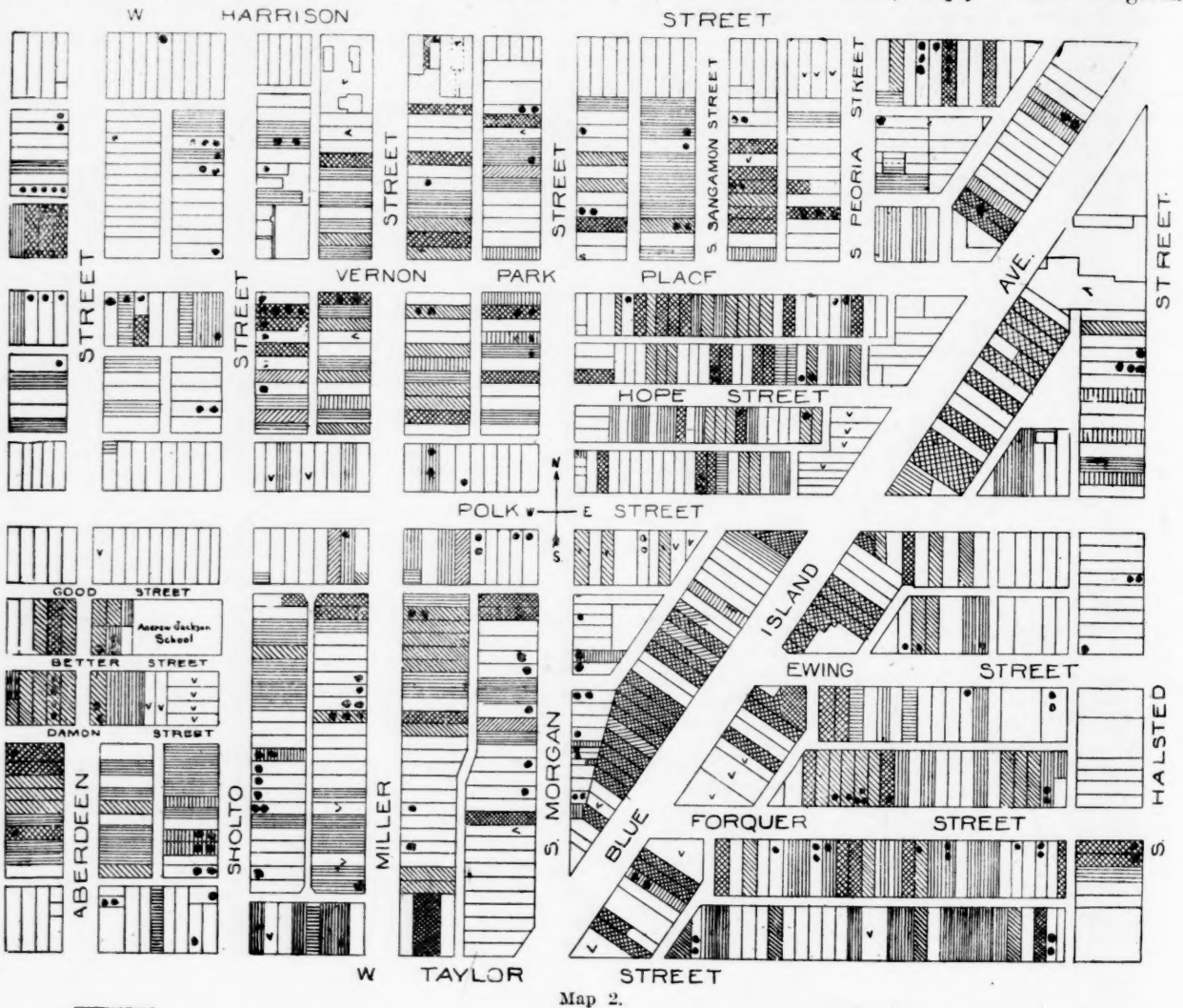
The third class includes out-of-doors water closets, whose water supply is the rain water from the roof and the wash water from the kitchen sink. This is a fairly safe arrangement when the catch basin is kept clean and the sewer does not back up. The law requires catch

2. Prepared by the board of health and kindly given me by Dr. Reilly, Assistant Commissioner of Health.

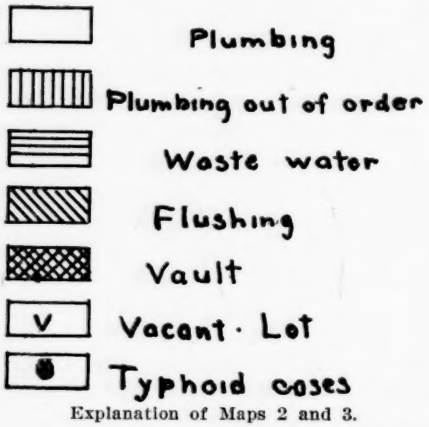
basins to be of easy access and frequently cleaned, but many of them are buried deep in the earth and uncovered only when the accumulation of filth has become unbearable.

The fourth class includes the privy vaults with sewer connections but without water supply. These are cleaned either by flushing with a hose connected with the hydrant or by a scavenger. If cleaned often enough by flushing the sewer connection can be kept open; otherwise the night soil must be removed by a scavenger. It can be seen that there is room for great variation in this class. When the landlord lives on the premises he is apt to flush his privy at least twice a year, sometimes even once a month, but in the houses of absentee landlords the place may be flushed only once in three years or more. In some places it is impossible to ascertain whether or not there is any sewer connection, as no cleaning has been done in the memory of the oldest tenant.

The fifth class includes the old-fashioned country privy; no sewer connection, simply a hole in the ground. It is often full and indescribably filthy, in spite of all efforts on the part of the tenants to keep it at least outwardly clean.



Map 2.

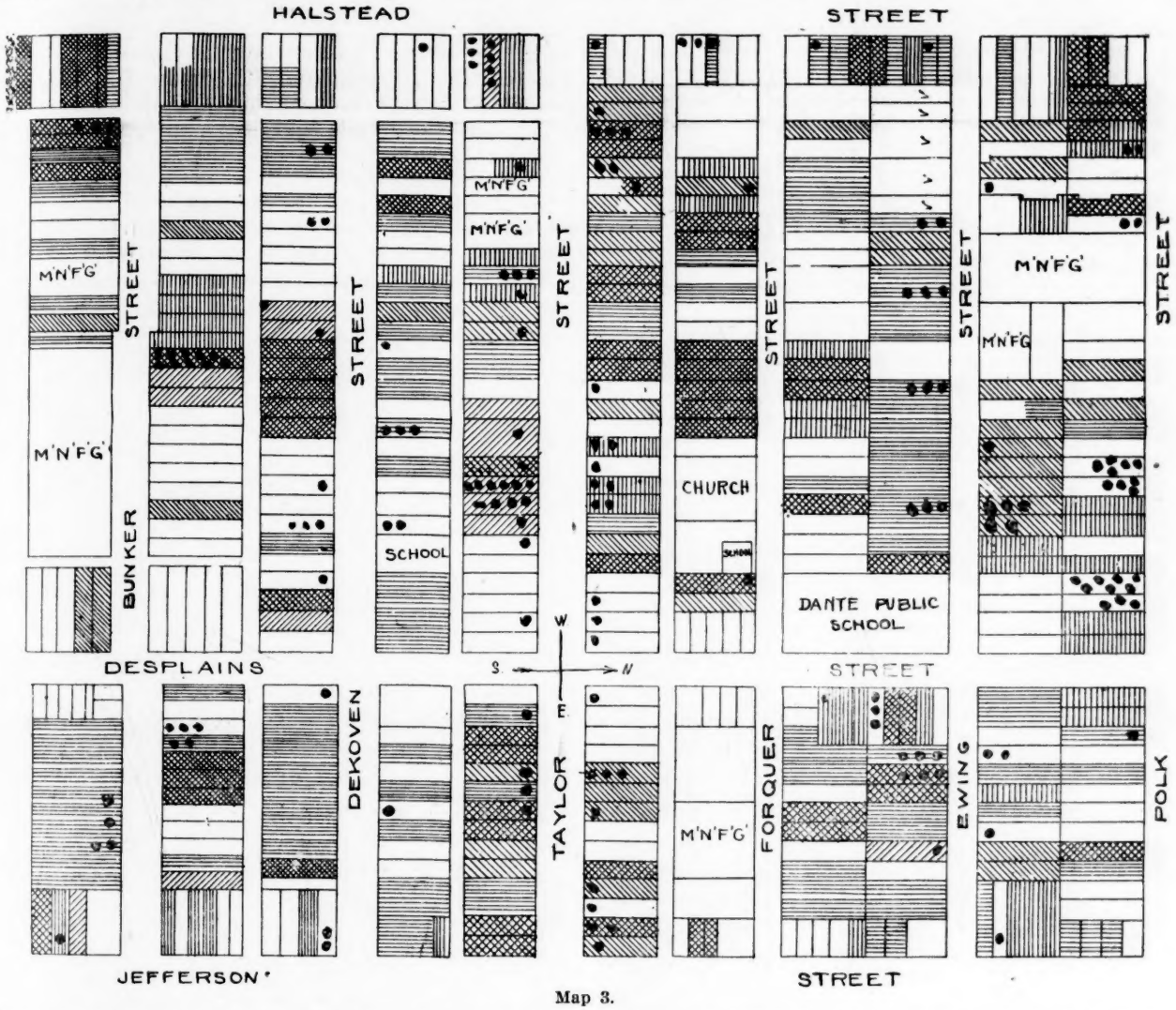


Explanation of Maps 2 and 3.

As can be seen from the maps, the cases of typhoid fever were not more numerous, on the whole, in houses where the disposal of fecal matter is most defective. Houses with good plumbing which are close to those with badly-drained cesspools are just as apt to have cases of typhoid as are the badly-drained ones, e. g., Morgan street on the east side. All that can be said is that in those areas which have many such places there was more typhoid than in those in which conditions are better. (Compare Bunker with Taylor street, for instance, Polk street east of Halsted with Polk street west of Halsted, Harrison with Sholto.) It must be remembered that the character of the plumbing is due largely to the newness of the building and to the conscience of the landlord, and is not a measure of the standard of living of the tenants.

The statistics which the Hull House residents were able to gather as to the number of cases of typhoid fever are as accurate as such statistics ever can be. No cases

were entered on the maps which had not had a physician's diagnosis, and inasmuch as the physicians of the neighborhood testified that there was an unusually large number of cases of "walking typhoid," many of which very likely never saw a physician, it is probable that the number of cases, as given in the maps, is below rather



Map 3.

than above the actual number. It was also impossible to show on the maps the actual condition of the various closets. Cesspools filled to overflowing and leaking are necessarily represented by the same shading as moderately full and periodically cleaned cesspools, to avoid overcomplicating the maps. A few extracts from the note-books of the Hull House residents will give an idea of some of the conditions found:

DeKoven street (Jewish). Vault, connected with the sewer, but full. Basement full of sewage-contaminated water from backing up of sewer.

Law avenue (Greek). Seventy-six persons using 3 small closets under the house; very filthy; apparently no sewer connection.

Bunker street (Bohemian and Polish). Unconnected vaults; very foul; 10 cases of typhoid fever, with 4 deaths in this tenement.

Law avenue (colored). Connected with the sewer, but out of order; full to the floor. Boards at back are broken away so that cesspool is quite exposed.

Ewing street (Italian). Cesspool, said to have sewer connection, but full and running over, so that stream of sewage runs down the yard.

Taylor street (Italian). Old-fashioned privy; no sewer connection. One of five privies in a yard between a 4-story front tenement and a 3-story rear tenement. While we were inspecting it, a woman came down with a vessel filled with discharge from a typhoid patient, which she emptied into the vault. No disinfectant was used.

Aberdeen street (Irish). One large vault, used by 16 families; very foul-smelling; unconnected with the sewer. This was cleaned by a scavenger during August, and the filth left standing in an open barrow in the alley between two houses for a week. It was so offensive that the tenants in these two houses were obliged to keep their windows on that side closed. Complaints to the health department and garbage inspector were fruitless, and finally the personal influence of a physician prevailed over the landlord and he removed it, but not until it had stood there during a week of warm weather when, naturally, the place swarmed with flies. There were five cases of typhoid fever in each of the two houses next to the alley.

INFECTION BY THE HOUSE FLY.

Now if there is any causative relation between the condition described above and the distribution of the cases of typhoid fever the agency of flies at once suggests itself as a possible factor. It is true that germ-laden dust blown by the wind may also be a mode of conveyance of the infection. The typhoid bacillus has been shown by Firth and Horrocks to retain its vitality in dry soil for twenty-five days, by Uffelmann for over sixty. However, it was only after the middle of August

that this agency could have come into play to any great extent, for up to that time there had been constant rains and there was practically no dust.

The importance of the common house fly in the spread of typhoid infection was emphasized by Majors Reed, Vaughan and Shakespeare in their report on the "Origin and Spread of Typhoid Fever in the U. S. Military Camps During the Spanish War in 1898." They state that in many of the camps:

> Flies were undoubtedly the most active agents in the spread of typhoid fever. Flies alternately visited and fed on the infected fecal matter and the food in the mess tents. More than once it happened when lime had been scattered over the fecal matter in the pits, flies with their feet covered with lime were seen walking over the food. Typhoid fever was much less frequent among members of messes who had their mess tents screened than it was among those who took no such precaution. Typhoid fever gradually died out in the fall of 1898 in the camps at Knoxville and Meade with the disappearance of the fly, and this occurred at a time of the year when in civil practice typhoid fever is generally on the increase. . . . The first pits at Knoxville contained, before the first twenty-four hours had passed after the arrival of the troops, fecal matter infected with the typhoid bacillus. Flies swarmed everywhere. Instead of abating, the disease increased. The soldiers were using the same water used exclusively by the inhabitants of West Knoxville, and among the latter there was not at that time a case of typhoid fever. Certainly the disease was not disseminated through the drinking water.

Dr. H. A. Veeder,[3] writing on the same subject in the fall of 1898, said that in his opinion flies were more important agents in the spread of typhoid infection in the military camps during the late war than were drinking water or milk.

There have been several mysteriously spreading epidemics, in farming regions, for instance, where the houses are far apart and where the spread of the disease can not be accounted for by infected water or milk; also puzzling instances of individuals, who have taken all usual precautions during an epidemic, and yet fall prey to the disease. These cases may best be explained by assuming that the food became infected by flies which had previously fed on typhoid discharges.

In a recent number of the *British Medical Journal*[4] there is a report by two British army surgeons, Majors Firth and Horrocks, of an investigation into the "Influence of Soil, Fabrics and Flies in the Dissemination of Enteric Fever." I quote simply the last part of the paper, that which deals with flies.

These investigators had adult and larval flies placed in a specially-constructed cage in which were also placed Petri dishes containing a mixture of syrup, a fresh typhoid stool and a fresh culture of typhoid bacilli, and sometimes the whole was lightly covered with earth. After feeding on this the flies would settle on other Petri dishes which contained sterile culture medium. The typhoid colonies were recovered in every instance.

TABLE OF CULTURES BELONGING TO COLON-TYPHOID

	Morphology.	Gelatin Plate After Forty-eight Hours.	Agar Plate (Hiss) After Twenty-four Hours.	Potato.	Gel. Stab.	Agar Streak.
Typhoid control No. 15.	Short, slender rods, rounded ends, spore-less, very actively motile; decolorizing by Gram.	Deep colonies are small, yellowish, granular, round. Surface colorless, delicately veined, edge lobulated. Center turning yellowish.	Deep colonies are greenish, bristly or thready, small. Surface colorless, granular, greenish center.	Moist, slightly slimy, colorless, growth, scanty.	Delicate, granular, growth along stab, thin, greenish on surface, not spreading much. No liquefaction.	Whitish, shining streak, even round'd borders, spreading very little. White precipitate in water at bottom of tube.
A 1 from vault	Same	Same	Same	Same	Same	Same
A 2 from yard	Same	Same	Same	Same	Same	Same
A 3-a from yard	Same	Same	Same	Same	Same	Same
P 1-a from yard	Same	Same	Same	Same	Same	Same
P 2 from sick room.	Same	Same	Same	Same	Same	Same
A 3-b from yard	Same	Same	Same	Moderately abundant growth, slightly yellowish. Potato brown in two days.	Same	Thin, grayish, spreading more than 15.
P 3-a f'm vault	Same	Same	Same	Same. Potato brown in 24 hours.	Same	Same
A 3-c from yard	Same	Same	Same	Like 15	Same	Same
P 3-b f'm vault	Not so actively motile as 15.	Same	Same	Dry, granular, brown growth, all over surface.	Same	Same
A 4 from yard	Like 15.	Same	Same	Like 15	Same	Same
P 1-b from yard	Same	Same	Deep colonies brown, granular, large, smooth-bordered. Surface, large, granular, brown.	Same	Same	Like 15
P 3-c f'm vault	Not so actively motile as 15.	Same	Same	Abundant, slimy, colorless growth.	Same	Rather more abundant than 15.

EXAMINATION OF FLIES.

Interesting as these results are, they do not really prove the point in question, the agency of flies in the dissemination of typhoid infection. They show, to be sure, that flies can take up typhoid bacilli from fresh cultures and then replant them a few minutes after on sterile culture medium, but it remained to be proven that flies having fed on mixed discharges, which have lain for some time in privy vaults, can subsequently crawl over various surfaces and yet finally deposit the living typhoid bacilli on foodstuffs at a considerable distance from the original place of infection. In order to do this, it would be necessary to catch the flies on the spot and make the bacteriologic examination without having subjected them to any artificial conditions.

3. Medical Record, 1898.

4. Brit. Med. Jour., Sept. 27, 1902.

Two places were selected in the neighborhood of Hull House as specially favorable for such an examination. The first was an unconnected privy on Polk street into which the discharges from two cases of typhoid fever were being thrown without any attempt at disinfection. The vault was either very shallow or very full, for the dejecta lay within three feet of the opening and had caught on the projecting scantling within a foot of the opening. The flies[5] caught within the vault, on the fence of the yard and inside the sick-room of one of the patients, which was also used as a kitchen, were dropped into test tubes containing culture medium and allowed to remain there for periods varying from fifteen minutes to twelve hours. Eight tubes were thus inoculated, three of which contained plain bouillon in which the flies were drowned, three the slightly acid gelatin-agar of Hiss and two the potato-water gelatin of Holz. In two of the bouillon tubes, the one from the sick-room and the one agar. From three of these tubes the typhoid bacillus was recovered; that is, from one bouillon tube inoculated with flies from the privy and from one bouillon and one agar tube inoculated with flies from the walls of the house and from the fence. From another bouillon tube with flies from the fence a bacillus was isolated belonging to the intermediate group above referred to, and another also of this group was isolated from one of the bouillon tubes which contained the typhoid bacillus.

At the time the collection was made there were no fresh typhoid discharges being emptied into this vault, so that the presence of living typhoid bacilli on the legs of the flies apparently proves either that the bacilli already in the vaults were living and multiplying, or that the discharges of the recovered cases still contained typhoid bacilli. In the Polk-street house the flies caught in the sick-room are especially interesting. This room was also used as the kitchen and at the time the collec-

GROUP, OBTAINED FROM TUBES CONTAMINATED BY FLIES.

Litmus Milk.	Litmus Whey.	Lactose Bouillon.	Glucose Bouillon.	Saccharose Bouillon.	Glucose Agar.	Indol in Peptone Bouillon. 7 days at 37° C.	Agglutination.
Faintly acid at the end of twenty-four hours. No coagulation after eight weeks.	Faintly acid after twenty-four hours and after four weeks. Hardly at all cloudy.	Uniformly cloudy. No pellicle, no acid, no gas.	Acid, no gas.	No acid, no gas.	Uniformly cloudy. No gas.	—	1-200+ 1-400—
Same	Same	Same	Same	Same	Same	—	1-200+ 1-400—
Same	Faintly acid in twenty-four hours. Neutral in twelve to sixteen days, then alkaline.	Same	Same	Same	Same	—	1-150+ 1-250—
Same	Like 15	Same	Same	Same	Same	—	1-100+ 1-250—
Same	Same	Same	Same	Same	Same	—	1-200+ 1-400—
Same	Same	Same	Same	Same	Same	—	1-100+ 1-250—
Alkaline in twenty-four hours. Dark blue in two weeks. Persistant, growing translucent.	Alkaline in twenty-four hours. Persistent. Slightly cloudy.	Same	No acid	Same	Same	—	1-25—
Same	Same	Same	Same	Same	Same	—	1-25—
Faintly acid in twenty-four hours. No coagulation. Alkaline on fifth day, persistent. Bleaches finally.	Faintly acid in twenty-four hours. Alkaline on ninth day. Cloudy.	No acid	Acid, gas	Same	Gas, not abundant.	—	1-25—
No acid. Alkaline on third day. Persistent. Bleaches finally.	Faintly acid in twenty-four hours. Alkaline on fourth day. Cloudy.	No acid	Acid, gas	Same	Same	—	1-70+ 1-150—
Acid in twenty-four hours. Coagulating on third day. Alkaline on fifth day. Persistent.	Acid in twenty-four hours. Alkaline by ninth day. Cloudy. Persistent.	Faintly acid in twenty-four hours. Alkaline by third day, persistent.	Acid, gas	Same	Same	Slight+ reaction.	1-25—
Acid in twenty-four hours. Coagulating on third day.	Acid in twenty-four hours. Cloudy.	Acid gas.	Same	Acid, gas	Abundant gas.	+	1-25—
Acid in twenty-four hours. Coagulating on third day.	Same	Acid gas.	Same	Acid, gas	Abundant gas.	+	1-25—

from the yard, a bacillus was isolated which corresponds culturally with the typhoid bacillus, and which agglutinates in dilutions of 100 to 200 with the serum of immunized animals. In one of the tubes inoculated by flies from the vault a bacillus was isolated closely related to but not identical with the typhoid bacillus, belonging apparently to the group intermediate between the typhoid and colon groups.

The second place chosen was a yard on Aberdeen street containing one large, full and filthy vault, not connected with the sewer. This is used by sixteen families. Flies from the three privies built over this cesspool were used to inoculate two tubes of bouillon and one each of agar-gelatin and of potato-gelatin; other flies from the fence of the yard and from the walls of the two houses bounding the yard, at varying distances from the vault, were dropped into two tubes each of bouillon, gelatin and

5. In all cases the common house fly, *Musca domestica*.

tion was made the table was covered with food on which could be seen flies both living and dead.

The conditions found at these two places are repeated over and over again in this neighborhood, and when one considers that, in addition to the privies and defective plumbing, there are the sewer-infected back yards, that food is kept more or less exposed, not only in the houses, but in the groceries and fruit stands, that the houses are not furnished with screens, it can easily be seen what an important part the house fly may play in the spread of typhoid infection in such a neighborhood. It can also be seen that this is one factor which does not come into play to such an extent in more well-to-do parts of the city, where screens and good plumbing are the rule, or in newer parts of the city where the excrement is properly disposed of. There are, as was stated above, no available statistics as to the number of privies still in use in Chicago, but Dr. Reilly, assistant commissioner

of health, is of the opinion that more than half of them are within the Nineteenth Ward. It seems, therefore, not unwarranted to assume that the concentration of the typhoid fever in this particular quarter of the city during the late epidemic was due to the spread of the bacilli by flies from the undrained or imperfectly drained cesspools, the leaking closets and the infected earth of the yards.

BACTERIOLOGIC EXAMINATION OF THE FLY TUBES.

As already stated, the flies caught at the different places were dropped into six tubes of bouillon, six of potato-water gelatin and six of His' agar-gelatin. They were allowed to walk over the solid, slanted media, sometimes for fifteen to thirty minutes only, sometimes from one hour to twelve hours; others were drowned in the bouillon tubes. The flies were then removed with sterile forceps and the tubes set aside for twenty-four hours, the gelatin tubes at room temperature, the others in the incubator. All of the gelatin tubes liquefied in forty-eight hours to such an extent that they were useless. The agar tubes, with the exception of two in which the flies had remained not more than half an hour, were covered with a thick slimy growth, loopfuls of which were transferred to bouillon and the plating was done from the latter. The two in which the growth was not so abundant showed two or three black specks of excrement in each, and the colonies growing at these points were carefully examined, but yielded only sarcines.

The plating media used were the potato-water gelatin, the agar-gelatin of Hiss, and Lösener's .05 per cent. carbol-gelatin. Plates were made from the twelve tubes on all these media, and five of them were found so greatly contaminated as to be worthless. Sarcines, yellow, white and orange, liquefying protei, subtilis, megatherium, Zopfii, mesentericus and mycoides were all identified by their colonies, and the attempt to isolate the colon group from among them failed. Better success was obtained from the remaining five bouillon and two agar tubes. Two of them (A 1 and P 1) were so little contaminated with liquefying varieties that the original Holz plates remained usable until they dried. This medium was somewhat disappointing in the other cases, for the liquefying varieties often grew with apparently undiminished vigor, causing complete liquefaction by the time the typhoid colonies should begin to be characteristic. The carbol-gelatin was still less satisfactory, for the addition of .05 per cent. carbolic acid did not prevent the growth of the liquefying forms, but only retarded them; but it also retarded the growth of the typhoid colonies which often at the end of three days showed merely as clear droplets, not distinguishable from colon, or from a slowly liquefying motile bacillus. Moreover, the typhoid surface colonies never took the characteristic grape-leaf appearance, but were always round with smooth edges. On the whole, the agar-gelatin of Hiss gave the most satisfactory results. The tiny, greenish, bristly or thready colonies which developed in eighteen hours were easily distinguishable from the larger, brown, smooth-bordered colon colonies. The differences became more marked in forty-eight hours, for the typhoid colonies increased hardly at all in size, while the colon colonies grew much larger. The acidity of the medium retarded the growth of other forms.

Hiss[6] has recommended the transplantation of typhoid-like colonies to a semi-solid "tube medium" (containing glucose), in which, he claims, the typhoid bacillus is the only one causing a diffuse cloudiness without formation of gas, and in this way a rapid positive diagnosis can be made. In my experience this served very well to distinguish the typhoid bacillus from the colon and from various glucose-fermenting intermediate forms, but not from a non-sugar-fermenting bacillus which produces an early and persistent alkalinity in milk and which I have supposed to be identical with the *Bacillus fœcalis alkaligenes* of Petruschky. This bacillus caused a diffuse cloudiness in the tube medium, and inasmuch as it resembled the typhoid bacillus morphologically and in its growth on gelatin, agar and bouillon, it could be distinguished from the latter only by its rather more abundant brownish growth on potato and its failure to ferment any of the sugars or to cause even a transient acidity in milk or litmus whey.

Colonies of the colon bacillus were found on every plate, as was to be expected, and two organisms were isolated simply for purposes of comparison. Several intermediate forms were also isolated from the Hiss plates under the supposition that they were typical typhoid colonies, until the formation of gas in glucose media proved their nearer relation to the colon group.

The following is a diagram of the twelve organisms which were isolated from the fly tubes, and of a typhoid bacillus obtained in the laboratory of Rush Medical College from the blood of a typhoid patient and used as control. Those marked A were from the tubes inoculated at Aberdeen street; those marked P, from Polk street. The organisms A 3-c and P 3-b seem to belong to the group intermediate between the typhoid and colon bacilli, resembling the typhoid morphologically, in their growth on potato, gelatin and agar, and in their failure to ferment lactose or coagulate milk; resembling colon in the fermentation of glucose with formation of gas as well as acid, although not as abundantly as does colon. To this group belong the *B. enteritidis* of Gärtner, and the organisms isolated by Widal, Gwyn, Cushing, Schottmueller, Longcope, Hewlett, Johnston, Kurth, and recently Sion and Negel. There are minor variations in the growth of these organisms on culture media as they approach now the typhoid type, now the colon, but in the main the class is well defined.

P 3-b, with its dry, granular, brown growth on potato, early and persistent alkalinity in milk and litmus whey and its slight fermentation of glucose, corresponds closely with the bacillus isolated by Sion and Negel from the blood of five patients and from the well-water in a house epidemic of typhoid-like character. A 3-b and P 3-a ferment no sugars and produce an early and increasing alkalinity in milk and Petruschky's whey, and a relatively abundant growth on potato, characteristics which correspond to those of the *B. fœcalis alkaligenes* of Petruschky.

P 3-c and P 1-b are typical members of the colon group, except that P 3-c does not grow characteristically on potato. A 4 should, perhaps, be relegated to the intermediate group, but differs from all those reported, except one of Schottmueller's, in coagulating milk and forming a small amount of indol. It might be regarded as a feebly-growing organism of the colon group were it not for the failure to ferment lactose—the transient faint acidity is soon followed by a persistent alkalinity—and the production of a persistent alkalinity in milk and litmus whey.

The serum of an immunized rabbit was used to test the agglutinability of these organisms. The control agglutinated in a dilution of 1-200, not in a dilution of 1-400. All of the typhoid bacilli isolated from the fly tubes failed to agglutinate in dilutions of 1-400, two

6. Jour. Med. Research, 1902, vol. viii, No. 1, p. 148.

would agglutinate only in 1-100 dilution, and one in 1-150. P 3-b agglutinated in a dilution of 1-70, which is really greater than the dilutions used in the ordinary clinical application of the agglutination test, yet this organism proved by its growth in sugar media and milk to belong to the intermediate group. This agglutinability with typhoid immune serum on the part of an organism of the intermediate group has been observed several times (Durham, Klinger). Durham for this reason questions the value of the agglutination test as compared with cultural tests, for he has even found colon bacilli which agglutinated with this serum, as has also Klinger.

As all parts of the fly came in contact with the culture medium it is impossible to say that any one part was especially responsible for the conveyance of the bacilli. Firth and Horrocks were able to recover the bacillus from the head, wings, legs and body of the flies which had crawled over the typhoid cultures. The failure to isolate it from the excrement of the flies also agrees with the findings of Firth and Horrocks.

CONCLUSIONS.

1. The epidemic of typhoid fever in Chicago during July, August, September and October of 1902 was most severe in the Nineteenth Ward, which, with one-thirty-sixth of the city's population, had over one-seventh of all the deaths from this disease.

2. The concentration of the epidemic in this locality can not be explained by contamination of the drinking water, or of food, or on the ground of ignorance and poverty of the inhabitants, for the Nineteenth Ward does not differ in these respects from several other parts of the city.

3. An investigation of the sanitary conditions of this region shows that many of the street sewers are too small, and that only 48 per cent. of the houses have sanitary plumbing. Of the remaining 52 per cent. 7 per cent. have defective plumbing, 22 per cent. water closets with intermittent water supply, 11 per cent. have privies connected with the sewer but without water supply, and 12 per cent. have privies with no sewer connection.

4. The streets in which the sanitary arrangements are worst had the largest number of cases of typhoid fever during this epidemic, irrespective of the poverty of the inhabitants.

5. Flies caught in two undrained privies, on the fences of two yards, on the walls of two houses, and in the room of a typhoid patient were used to inoculate 18 tubes, and from 5 of these tubes the typhoid bacillus was isolated.

6. When the discharges from typhoid patients are left exposed in privies or yards, flies may be an important agent in the dissemination of the typhoid infection.

Results of Nephrectomy.—V. Carlier describes in *Echo Méd. du Nord*, vi., 49, the ultimate results in twelve cases treated by nephrectomy. The reflex irritation from the diseased kidney ceases with the extirpation of the organ, and it frequently happens that a patient afterward will tolerate drugs, mercury for instance, which caused serious disturbances before. The best results from the nephrectomy were attained in cases of renal tuberculosis derived from the blood. One of the patients contracted scarlet fever during convalescence, but the course of the intercurrent disease was normal, with no trace of albuminuria until the third week. In debating the question of intervention he is inclined to distrust patients whose urine contains an abnormal proportion of chlorids, either too little or an excess. A patient in the latter category died three months after a successful nephrectomy, from generalization of the tuberculous process.

PNEUMONIA: THE NEW "CAPTAIN OF THE MEN OF DEATH."

ITS INCREASING PREVALENCE AND THE NECESSITY OF METHODS FOR ITS RESTRICTION.*

ARTHUR R. REYNOLDS, M.D.
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CHICAGO.

Figures are hard reading and harder hearing; but I must ask you to listen to a few in order that you may comprehend the magnitude of the pneumonia problem as I view it.

In the latest (1901) edition of his scholarly and most instructive "Principles and Practice of Medicine" Prof. William Osler, treating of pneumonia in the section of specific infectious diseases, says:

> The most widespread and fatal of all acute infectious diseases, pneumonia, is now the "Captain of the Men of Death," to use the phrase applied by John Bunyan to consumption.

He then adds:

> In the United States during the census year 1890 there died of it 76,496, a death rate per 100,000 of population of 186.94 [?]. In Chicago during the past ten years it has gradually replaced consumption as the principal cause of death, which A. R. Reynolds *attributes to the predisposing influence of Influenza*. In the last decade the death rate from pneumonia in Chicago was 18.03 per 10,000 of population, against 12.36 per 10,000 in the previous decade. There has been a marked increase in the disease in Baltimore, and Folsom has brought forward evidence to show that there has been a progressive increase in the death rate from pneumonia in the state of Massachusetts. The admission of pneumonia cases to hospitals during the past few years has, in some places, almost doubled.

These passages are cited for two purposes: First, that I may put their reader on his guard against the assumption that the great increase in pneumonia during the last ten or a dozen years is attributed by me solely "to the *predisposing influence of influenza*." Second, that I may emphasize more fully than Professor Osler has done the extent of this increase, both in point of time and of proportion.

As to the first, it will probably be sufficient to call attention to the title of the paper on which the assumption was based. This paper appeared in the March, 1901, Bulletin of the Chicago Health Department, and was entitled "Influenza as a Factor of Recent Mortality"—not the only, but one factor. That influenza has been such a factor and a very important one since December, 1889, is now admitted by etiologists generally. That the increase of pneumonia mortality is due solely to its predisposing influence is disproved by the following figures of deaths from all causes, those from consumption and those from pneumonia during the last thirty years:

In 1880 the death rate from all causes was 14.59 per thousand of the total population of the country; in 1900 it was 13.67—a decrease of 6.3 per cent. in the general mortality rate during the twenty years.

The consumption death rate in 1880 was 18.21 per 10,000 of population and 12.46 per cent. of the total mortality; in 1900 these figures were 14.44 and 10.56 respectively—decreases of 20.7 per cent. in proportion to population and of 15.2 per cent. in proportion to total mortality.

* Read by invitation at the Sixth General Conference of Health Officials in Michigan, under the Auspices of the Michigan State Board of Health, Jan. 15, 1903, at Ann Arbor, Mich.

EDITORIAL NOTE.—See Editorial, "The Deadly Pneumococcus," in THE JOURNAL A. M. A., April 14, 1900, probably the first printed notice of the increasing importance of pneumonia as a factor in the mortality of recent years.

On the other hand, while the pneumonia death rate had decreased 3.26 per cent. in proportion to population it had increased 5.57 per cent. of total mortality between 1880 and 1890, and 11.0 per cent. in proportion to population and 12.21 per cent. of total mortality between 1890 and 1900. The increase began long before there was any influenza in the country.

These computations are made from the data in the summary of vital statistics in the Twelfth Federal Census—that for the census year 1900—and are for the whole United States. Similar computations for Chicago, and covering two additional decades, show more strikingly the great decrease in the general death rate and in the consumption rate, and the much greater increase in the pneumonia rate.

Based on the U. S. census figures of population for each year the following are the death rates per thousand population: In 1860, 20.73; in 1870, 23.88; in 1880, 20.79; in 1890, 19.87; in 1900, 14.68—a decrease of 29.1 per cent., or nearly one-third in the 1900 death rate from the 1860 rate.

The deaths from consumption per 10,000 of population were, in 1860, 25.28; in 1870, 17.68; in 1880, 16.95; in 1890, 17.93, and in 1900 they were 15.30—an aggregate decrease of 39.5 per cent. in the forty years.

From pneumonia the deaths per 10,000 of population in 1860 were 4.40; in 1870, 10.24; in 1880, 12.58; in 1890, 18.84; in 1900, 19.78—an aggregate increase of 349.6 per cent. of pneumonia as compared with an aggregate decrease of 39.5 per cent. of consumption.

Note that the increase of pneumonia between 1880 and 1890—when there had been no influenza in the country, except sporadic cases, for seventeen years, or since the epidemic of 1873—was 49.7 per cent., or from 12.58 in 1880 to 18.84 in 1890; while the increase between 1890 and 1900—the influenza decade—was less than 5 per cent. (4.9) or from 18.84 in 1890 to 19.78 in 1900. It is obvious that influenza, while it undoubtedly has been a potent factor in increasing the mortality rate from other diseases—such as those of the heart, kidneys and respiratory system—is not the sole, nor even the principal, cause of any recent increase of pneumonia.

Since the census year 1900 pneumonia has claimed more than one-eighth of all the victims of the Grisly Reaper in Chicago, one-third more than consumption and 44 per cent. more than all the other contagious and infectious diseases combined, including diphtheria, erysipelas, influenza, measles, puerperal fever, scarlet fever, smallpox, typhoid fever and whooping cough—the total of which deaths was 4,489, as compared with a total of 6,560 deaths from pneumonia.

WHAT MAY BE DONE TO CHECK THIS INCREASING PREPONDERANCE OF PNEUMONIA MORTALITY?

As chairman of the Section on Hygiene and Sanitary Science at the Fifty-third Annual Meeting (1902) of the American Medical Association, I made a special effort to secure attention to this problem, and among those who contributed papers on the subject were Dr. Edward F. Wells[1] of Chicago, who wrote on the fatality and increasing prevalence of pneumonia, with suggestions for individual and communal prophylaxis, and Dr. James J. Walsh[2] of New York City, on its incidence, mortality and prophylaxis. The paper read in the same section by Dr. Smith Ely Jelliffe of New York City, on "Influenza and the Nervous System," belongs with these papers—the advice therein given as to the prevention of this disease apply equally well to pneumonia. Dr. N. S. Davis,[3] Jr., of Chicago, also read a paper during the year, before the Illinois State Medical Society, on the treatment of pneumonia, in which was embodied some sound advice on prophylaxis.

From these papers I quote the following: Dr. Wells advises that for individual prophylaxis in a case of pneumonia the nasal, pharyngeal and oral cavities should be kept as free as possible from accumulations of mucus, and when it has been demonstrated that such secretions contain the pneumococcus such efforts should be especially well directed and maintained. In addition, care should be taken not to become chilled when overtired. The individual should, so far as practicable, keep out of the range of extruded pneumococcus-laden secretions of infected individuals. The sputum and other secretions of respiratory surfaces of pneumonic patients, or of other infected individuals, should be destroyed before they have been allowed to become dry. Such persons should cough and sneeze into a moistened cloth. He adds:

> There may be some comparatively simple means by which pneumonia may be prevented, but the fundamental information on which prophylactic rules may be formulated is not yet at hand; therefore, it should be the province and duty of public health officers to seek assiduously for such knowledge, and I would suggest that, as a preliminary step in this direction, pneumonia be placed on the list of notifiable diseases and that the environment of pneumonia patients be carefully noted and the results analyzed.

Dr. Walsh, after pointing out the contagious character of the disease, dwells on dust as a contagion carrier and urges the prophylaxis of clean streets, points out the danger of infection in crowded assemblies, and of defective house drainage and gas leakage as contributing causes. Specifically, as to preventive measures, he says:

> It would seem important, then, first of all to insure precaution against the spread of the disease by teaching the general public that there is always an element of contagion danger in a pneumonia case, and that certain protective and prophylactic measures are at least eminently advisable in order to avoid all danger. The secretions of pneumonia patients should be thoroughly sterilized by heat, or should be subjected to strong chemical antiseptics. The expectoration of pneumonia reeks with bacilli. It is often received into napkins or handkerchiefs, and must not be allowed to dry and find its way into the air, but must be carefully disposed of by those in attendance on the patient. Practically the same precautions as are now invariably [?] instituted with regard to tuberculosis should be suggested for pneumonia.
>
> Such directions will doubtless seem exaggeration of caution, not only to the general public, but to most medical men. Let us remember that the profession generally would have been quite as opposed to the suggestion of these precautions with regard to pulmonary tuberculosis twenty-five years ago. Now every one realizes that the old position in the matter was a serious mistake and founded on an erroneous opinion tenaciously held. The same thing may prove to be true of pneumonia.

Under the head of prophylaxis Dr. Davis says that:

> Never have physicians known so much of the nature of pneumonia or used remedial agents more intelligently than now. It is not their fault that the mortality of this disease is increasing. But is the medical profession altogether free from blame for its prevalence? Prophylactic measures have not been enforced as they should have been. It is well known that the cause of pneumonia is a micro-organism in the sputa of those suffering from the disease, and that the malady

1. THE JOURNAL A. M. A., Nov. 15, 1902, p. 1231.
2. Ibid., p. 1235.
3. Ibid., July 5, 1902, p. 1.

is engendered by inhaling it. Therefore, the same care should be taken to collect and destroy the sputa that is taken in pulmonary tuberculosis. It is not, however, a sufficient precaution to exercise this care during a patient's brief sickness, because the diplococcus of pneumonia is known sometimes to live and multiply for months and even years in the mouth, pharynx and nose of those who have had the disease. Therefore, during convalescence, and for at least two or three weeks thereafter, expectoration, if it occurs, should be into a sputa cup containing an antiseptic and water. Moreover, the patient's mouth should be rinsed several times daily with an antiseptic mouth wash. During the illness the greatest pains should be taken to prevent soiling bed clothing, carpets or furniture with the sputa. After the illness the patient's room should be thoroughly cleansed and ventilated. The enforcement of such measures will help to lessen the spread of this disease and will greatly lessen the frequency of its recurrence in those who have had it.

The facts that house epidemics are not infrequent and that the disease prevails, as other contagious and highly infectious ones do, in the winter season, when people are most crowded together and live much of the time in badly-ventilated apartments, suggests another prophylactic measure, which the public should be taught to apply, namely, thorough ventilation of houses, offices, factories, theaters, churches, cars and other public places, in order that the air which must be breathed may be kept clean and free from infectious matter.

Laymen should be taught not to be afraid of a patient who has pneumonia, influenza or tuberculosis, but to be afraid of lack of cleanliness about him during his illness, of failure to enforce prophylactic measures and of close, badly ventilated apartments during the season when these diseases prevail.

Although experiments with pneumonia serum have shown that a temporary immunity can be created in certain lower animals, it can not be in man. These experimental successes, however, lead us to hope for more certain means of preventing pneumonia than we now possess.

To these suggestions I would add that every precaution employed in a case of diphtheria should be enforced in a pneumonia case. The two diseases are much more similar from the prophylactic standpoint than are tuberculosis and pneumonia. The former are both acute; therefore, preventive measures are not necessary for so long a period as to become burdensome and perfunctory.

The organism which causes pneumonia may live in the tissues and air passages of human beings for a considerable time without producing the disease. Every person here present has doubtless had the germ in his tissues scores of times, and at this very moment it is in the bronchial tubes of many of us. But before pneumonia can develop in such persons some change must take place, either in the organism or in the individual. At present those of us who are acting as hosts to the germ of pneumonia do not get the disease because there is something in us that, for the time being, renders us immune. That something is to be found in every human body in normal health and vigor. The moment the vitality becomes lowered sufficiently from any of the many causes to which we are liable to become subject—and no one can measure the exact time or place—then the pneumonia organism begins to multiply, to feed on our substances and to give off a poison, and the result is pneumonia.

It may come to pass that a simple, direct method of preventing pneumonia will be discovered, but until that is done our efforts must be directed toward keeping our bodies in condition to resist and challenge the invasion of pneumonia. Whatever measures are taken to this end will apply with similar force to all other infectious diseases.

The element first in importance in keeping the health up to standard is pure air. Without air no one of us can live an hour, while we may live days without water and weeks without food. An important element in the increasing prevalence of pneumonia is, doubtless, the fact that more persons are spending their lives indoors than formerly—in shops, factories and offices. Sufficient air is only obtained by living as much as possible, both day and night, in the open air.

The air in dwellings, offices, factories and shops must be kept as pure within as without. If architects and builders can not secure proper air within buildings then we must to a greater extent in the future do away with buildings altogether.

Next in importance to pure air in dwellings is the necessity for sunlight. No room is fit to sleep in all night that has not been flooded with sunlight all day long. Human beings need the sun and the beneficial effect it has on the air they breathe quite as much as the vegetable kingdom needs it. The fashion of shades and shutters on windows will be abandoned as the beneficial effects of sunlight are understood.

Less need be said of the necessity for pure water and its constant use, both within the body and on its surface, for the world is now becoming awake to this fact.

With reference to food, no general rules can be laid down for all; but it is safe to say that the average adult person in the United States, who lives chiefly indoors, eats very much more than he requires to nourish his body; the extra amount is a burden on digestive power, clogs excretory organs and accounts for most of the malaise, headache and premature breaking down.

While pneumonia may be induced by the bad air, bad heating and bad lighting of dwellings, a more fruitful source of the disease is probably found in places of public assembly, such as schools, theaters, churches, street cars, etc. Greater attention must be paid in the future to the cleansing not only of the floors of such places, but of the air. What the American people seem to need is not more and better food, but more and better air. Overwork, overindulgence, excesses, all lower the vitality and render one a fit subject for pneumonia.

As to Dr. Davis' language concerning a pneumonia preventive serum, it may be remarked that it is barely ten years since the diphtheria antitoxin for both the prevention and the treatment of diphtheria was produced; that the anti-cholera and bubonic plague inoculations are of still more recent date; and that the scarlet-fever and whooping-cough sera are not yet two years old. Let us partake of the optimism of the apostle of bloodless surgery, Dr. Adolph Lorenz, who, in speaking of the probability of a successful serum treatment of cancer, recently said in his doctorate address[4] at the Northwestern University:

> If cancer is of parasitic origin, as one must hope, and as many of the most respected surgeons believe, then it may be possible that a curing antitoxin will be found. The prophecy of the great Joseph Lister, spoken as he gave his fellow beings antisepsis, will be appropriate for the second time: "Surgery will be quite different from what it has been heretofore."
>
> If this boon should come to mankind, then general surgery also will give way to a very little sharp but harmless instrument—the hypodermatic syringe.
>
> May the twentieth century give to the world, burdened with pain and death, this savior of mankind. The nation which gives birth to this genius will become the first nation of the world through this one deed.

It is not too much to hope that there is some one here present who may shortly give to the world the still more important boon of an antitoxin for pneumonia.

4. THE JOURNAL A. M. A., Jan. 10, 1903, p. 98.

Meantime, it remains for each of us—physician and sanitarian, curer and preventer alike—each in his appointed place, to do what in him lies to restrict the ravages of this, the most murderous modern scourge of civilized peoples. Let the physician instruct his pneumonia families as to the methods of saving other members of the household from falling victims. Let the sanitarian and the health officer push the propaganda of healthful living, the conservation and development of such inherited powers of vital resistance as the individual may possess—that vital resistance which is, after all, the best prophylactic against, not consumption only, nor pneumonia only, but against all the preventable diseases.

The work is not spectacular nor dramatic. It will have no such picturesque phrase as the "Great White Plague" with which to conjure and arouse sentiment and enthusiasm. There will be no imperial monarch to make it a fashionable fad by becoming the president of an anti-pneumonia league, nor will there be any royal palace set aside as a sanatorium for the treatment of pneumonia.

But in the end the persistent public educational work that shall restrict pneumonia will in like measure restrict all other diseases and so add to the span of human life.

ADDENDUM.

Note.—Since this paper was read before the conference the figures and computations have been revised to conform with the data of Table 1, Census Reports, Volume iv., Part 2, Twelfth Census of the United States. The original figures were taken from the Tenth and Eleventh Census Reports for 1880 and 1890 respectively, and the computations were made on those figures. Sundry discrepancies, noted in reading the paper, led to a comparison of the figures in the three several census reports, by which it was revealed that not only the figures of population but those of total deaths differ in the different reports.

For example: The population of the country in 1880 is given as 50,189,209 in the tenth census, and in 1890 as 63,069,756 in the eleventh census. In Table 1 of the twelfth census—above referred to—these figures are changed to 50,155,783 and 62,947,714 respectively. The total deaths are given as 756,893 for 1880 in the tenth census and as 732,017 in Table 1 of the twelfth census. Similar figures for 1890 are changed from 875,521 in the eleventh census to 841,419 in the twelfth census, Table 1.

The annual death rates per thousand of population, the ratio between these and the death rates from consumption and from pneumonia and the percentages of increase and decrease are, of course, affected by these changes. Not, however, unfavorably to the thesis of the paper—to-wit, that while the general death rate and the death rate from consumption have materially decreased during the last thirty years, the death rate from pneumonia had enormously increased during the same period.

Since the twelfth census is the latest and, presumably, the least inaccurate as to its statistical data, it has been thought well to revise the figures and computations in accordance therewith—the more so as the deduction of 24,876 deaths from the original 1880 figures and of 34,102 from the 1890 figures inspire the hope that in some future census the arbitrary addition of upward of 1,900 deaths to the actual number reported and recorded in the city of Chicago during the census year 1900, may also be deducted and the true death rate of the city for that period—15.08 per 1,000, instead of the erroneous census rate, 16.2—may be given.

Hope.—If we mingle with our hopes even a small modicum of judgment as to inevitable cause and effect, and if we also put forth an earnest effort to work for their realization, we can never be too hopeful. With this condition hope becomes a virtue to be cultivated, as well as a pleasure to be enjoyed. It is a wholesome tonic, a delicious draught. It not only cheers and consoles and encourages us by the way, but it gives strength to win the victory, or, if need be, to endure the defeat.—*Co-operation.*

Good for the State Board.—A new and most commendable step has been taken by the Ohio State Board of Medical Registration and Examination. Up to the present time the board, although having full discretion to revoke a physician's license to practice for such cause as immoral conduct, criminal offense or the abuse of intoxicants, has not exercised such discretion in criminal cases in which a conviction had not been obtained in court. In a recent instance in Columbus the board, very wisely it seems to us, after a full hearing voted to revoke the licenses of two physicians charged with attempting to produce a criminal abortion, and with being responsible for the subsequent death of the patient. [See THE JOURNAL, October 25, p. 1062, and November 22, p. 1329.] In these cases conviction in court is usually all but impossible, and very commonly the culprits escape with an acquittal or with no trial at all. Such seemed to be the probable termination of the case against the two men in Columbus, when the state board decided to take up the matter. Much genuine testimony was of course admitted that would have been ruled out of a court by those technicalities that so often are a shield for the guilty. In this case the young woman thought she was pregnant and charged a medical student with being the cause of her difficulty. The student enlisted the assistance of two physicians, who attempted to produce an abortion. As a matter of fact, as proved by the autopsy, the girl was not pregnant, but in their efforts the abortionists tore a hole through the uterine fundus, and then in trying to wash out the uterine cavity they injected a quart of water into the peritoneum. Death promptly resulted from general peritonitis. The testimony as to these facts appealed to the board as being conclusive, and the two physicians were stripped of their right to practice medicine. Every physician should applaud this action of the board and should at once extend to the board promise of every possible support in the admirable position that it has taken in this matter. No action more likely to deter men from performing criminal abortion could be suggested. Once it is known that the board intends to revoke the licenses of abortionists without waiting for the courts to find them guilty, the recreant physician who contemplates this crime will hesitate. From the clutches of the law he might escape on the slim technical rules of evidence, but this will not avail to preserve his certificate. Once his license has been revoked his only recourse will be to go into court as plaintiff against the board and prove himself innocent. This will be a much more difficult task than that of escaping the penalty of the law. Every physician should let the board know that its position is approved and will be sustained.—*Cleveland Med. Jour.*

Ignoring the New Until the Quacks Force it on Our Attention.—An eminently sound and conscientious practitioner tried in vain for 20 years or more to arouse the profession to a sense of the value of massage and mechanical therapeutics in the treatment of certain diseases. At last he gave up in despair. It was not just then fashionable. Editors would not accept his articles, and the lazy-minded, the exploiters of the popular opinion, beguiled themselves with the old-fashioned sneer at the "hobbies of hobby riders" and the world went on in its blind way. Then came the osteopaths and the biceps-worshipers of the cheap magazines, and what the profession would not listen to from its own members was, willy nilly, forced on the attention by the quack. It is true that other regulars and scientists prior to the quack knew all and far more than he of the value of massage, but, like so much other knowledge, it was not realized in daily practice by the leaders and by the masses of the profession. It required the compulsion of ignorant popular enthusiasm to make us actually treat our patients by these methods and to put into use the partial veritable truth turned into an untruth by the extremism and indiscrimination of the charlatan. But why need we carry out, generation after generation, this stupid belittling and ignoring of the new truth? There are many such illustrations as the one we have cited, of our strange indifference to methods of treatment, 10, 20 or 30 years after demonstration has been made of their efficacy and value. Let us keep our minds open and flexible!—*Amer. Med.*

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PROTEID METABOLISM.

At the present time physiologic chemists are looking for the greatest advance in knowledge of intracellular metabolism to come from the many recent observations on the intracellular ferments. As has already been noted in these columns, the fundamental observations on proteid splitting enzymes in the tissue cells were made by Salkowski and his pupils, who showed that tissues of all kinds are able to digest themselves when kept at incubator temperature for a time, in the absence of bacteria. This process of autolysis is due to the presence, within the cells, of an enzyme which is very similar to the trypsin of pancreatic juice, although not identical, as is shown by careful study of the products of the digestion.

A most important advance seems to have been made recently by Martin Jacoby,[1] who has obtained evidence that the ferments that accomplish autolysis are to a certain extent specific, that is, extracts of one organ will not digest the tissues of a different organ. The importance of this observation lies in its agreement with the more modern ideas of proteid metabolism, which hereby receive much support. There seems to be good evidence that fats and carbohydrates are taken into cells in a diffusible form, and are then built into the less labile constituents of the cell, undergoing again splitting before they are either used or transported to other cells. For example, sugar is synthesized into glycogen, and then broken into sugar molecules; fat is synthesized in the cell from the alcohol and fatty acid that compose it, but is again split into these components before it can be further used or carried away. But the proteids present a much more complex problem, since they are of many kinds, seemingly different in each cell or tissue, and since their splitting products are many and far more complex than those from fats and carbohydrates. Jacoby considers that since the proteolytic enzymes of the cells will split only the proteids of the same kinds of cells, it is strongly suggestive that likewise when their action is reversed they will build up only the specific substances of the cells from the heterogeneous materials brought to them from the blood.

This theory needed evidence that the body cells can build up non-proteid products of proteid digestion into tissue proteids, and a paper furnishing this evidence has appeared almost synchronously with Jacoby's article. It is a pretty well-known fact that the soluble albumoses and peptones are not absorbed as such from the intestinal tract, and the teaching has been that they are in some mysterious manner transformed during their passage through the intestinal wall, since they are not found in the blood coming from the intestines, at least not in any amount comparable to the quantity absorbed. It was generally supposed that the diffusible digested proteids were converted into the proteids of the serum, to be used later in the cells in some unknown way. Not long ago Cohnheim showed that the intestinal epithelium contains and secretes an active enzyme, *erepsin*, that has the property of splitting albumoses and peptones into the simpler, non-proteid bodies, although quite unable to attack undigested proteids. This made it seem very probable that the albumoses and peptones do not appear in the blood coming from the intestines because they are further split by the erepsin. In other words, the formation of albumoses (or better, proteoses) and peptones is not the chief purpose of proteid digestion, but these bodies appear merely as intermediary products. If this is true then the cells of the body must be able to form these ultimate splitting products into the proper tissue proteids.

O. Löwi[2] took up this question and found the hypothesis correct, according to the results of his experiments. He permitted pancreas to digest itself until no reaction for proteid could be obtained, and then substituted it for proteid in the diet of a dog that was in nitrogenous equilibrium. It was found that it took the place of the proteid completely, for nitrogenous equilibrium was maintained, and therefore the simpler nitrogenous bodies must have been synthesized by the body cells to repair the continuous loss of cell proteid.

While these experiments are few in number and awaiting confirmation, they agree so completely with theoretical expectations that they are of the highest significance. Surely the demonstration of synthesis of the proteid molecule from simpler bodies, most of which are well known both as to properties and structure, lets much light into one of the deepest biologic mysteries.

1. Beiträge zur Chem. Physiol. u. Pathol., 1903, III, 446.

2. Centralblatt für Physiol., 1902, xv, 590.

THE SIGNIFICANCE OF ALBUMINURIA.

At the last meeting (Jan. 19, 1903) of the New York State Medical Association, New York County Branch, there was an interesting discussion of the significance of albumin in the urine, which was opened by the medical director of one of the large life insurance companies. As life insurance examiners have more extensive opportunities and especially opportunity for more prolonged observation in this subject than practitioners generally and as their judgment in the matter is responsible to the financial department of the company, their conclusions and suggestions can scarcely fail to be of practical value. Dr. Edward Lambert considers that for length of life the habits of the individual, his customs, especially with regard to highly spiced food, al-

cohol and tobacco, and the intensity of his application to business, with the time given to sleep, are factors of much more significance than the presence of a small amount of albumin. Very few young men pass a whole year without the occasional appearance of albumin in the urine, the result of overexercise, or of extremes of heat and cold. If this passes away in a short time it has no special prognostic significance, even though it may be accompanied by a few casts. But if it continues to be present the irritative conditions to which it is due may eventually cause, if it has not already, true kidney degeneration.

The amount of danger in any case is not proportionate to the amount of albumin in the urine. Dr. Lambert recalled a case in which so slight a trace of albumin was present that it could be detected with assurance only in a favorable light after careful filtration of the urine. It was decided that so slight an albuminuria could only be physiologic. Accordingly a policy was issued which matured by death within two years, though the business partner of this same applicant, who was at the same time absolutely refused because of the presence of a notable quantity of albumin, survived for more than twenty years. In one case albumin could be detected only in the afternoon urine. It was never seen in the morning urine, so that the family practitioner insisted on the absence of any significance. The patient died of chronic nephritis, however, within five years.

Osler,[1] in a recent article, referred to a number of patients who, in his experience, had lived for many years after their rejection by insurance companies because of albuminuria. Such selected cases represent actually, however, only a very small proportion of the whole number of the rejected. The presence of albumin always means that something is wrong. With care patients may live for many years, despite its presence, but no better stimulant to the adoption of a more healthful mode of life could be given them than refusal by an insurance company. Many a man owes prolonged life to this circumstance, and family practitioners should realize this influence for good and take advantage of it, rather than lessen its force by protestation against it, as is so frequently the case.

Dr. S. O. Vanderpoel, in discussing Dr. Lambert's paper, said that undoubtedly many applicants refused fifteen to twenty years ago by insurance companies because of the presence of albumin in the urine are still alive. A careful collation of the statistics of such cases, however, shows that from four to five times as many of these rejected applicants are dead as ought to be according to the normal expectation of life among men of their years. Albuminuric individuals very seldom live out more than one-half of their expectation of life, and if any serious illness intervenes it is almost sure to carry them off. Hence the necessity for the elimination of these cases from among the ordinary risks assumed.

1. "On the Advantages of a Trace of Albumin and a Few Tube Casts in the Urine of Certain Men Above Fifty Years of Age." N. Y. Med. Jour., Nov. 23, 1901.

The full significance, then, of albuminuria, even when accompanied by urinary casts, is not known as yet. We are almost entirely in the dark as to the meaning of nucleo-albumin, which would seem at times to be serious, since it has been found associated with eclampsia. It is to be hoped that careful investigations of such cases and observation of the conditions for many years will eventually give us the exact knowledge we now lack. There is no doubt of the importance of the subject, the field is most promising and the opportunity for good work of enduring character is open practically to every painstaking practitioner.

THE TREATMENT OF DUPUYTREN'S CONTRACTION.

The treatment of few, if any, of what may be termed minor surgical affections has been attended with such difficulties as that of Dupuytren's contraction. The clinical picture of this obstinate condition is sufficiently well known to all engaged in surgical dispensary practice. Gradually and without pain the fingers of one of the hands is drawn downward toward the palm, the contracture progressing gradually until several fingers, possibly the entire hand, is almost entirely useless. The ring finger of the right hand is generally first affected, and as the disease advances the little finger and middle finger are also affected. The thumb and index finger are seldom involved. All the structures of the flexor surface of the hand, muscles, tendon and skin have been considered possible factors in the production of this condition, but Dupuytren, after long observation and careful study of the tissues, was the first to show definitely that the seat of the disease is in the palmar aponeurosis, and this has been thoroughly established by repeated subsequent observers. Examination of tissues removed shows that the process is one of chronic hyperplastic inflammation with scar tissue contraction. As the process progresses not only the aponeurosis, but frequently also the skin, the ligaments and joints themselves are involved. The course of the disease is extremely chronic, from three to ten years being required before the contracture is complete.

The difficulties of treatment have been all the greater because so little is known as to its etiology. Injuries of the palmar fascia, particularly by those who use the tools of some trade continuously, rheumatic affections, general sclerosis and nervous origin have all been suggested as possible causes; however, constitutional treatment has proved of little avail in these cases. Malgaigne and some of the earlier surgeons, believing that the contracture was primary in the muscles, resorted to division of the tendons, thus producing a state of affairs worse than before. Sir Astley Cooper advised the more rational procedure of dissecting out the contracted tissue with temporary or permanent cure in some cases. Others have simply divided the contracted aponeurosis and skin and straightened the fingers forcibly, but this has been usually followed by recurrence. Electrolysis

and various forms of apparatus for extension have also been tried.

The latest suggestion as to treatment comes from the clinic of Von Bergmann of Berlin.[1] Lexer, one of Von Bergmann's assistants, has treated eight cases by removal of the entire aponeurosis and overlying skin and covering in the defect with a flap with a pedicle from the chest wall or by a flap taken from the thigh. The results in his cases, after two and a half years' observation, were very satisfactory except in two cases, in which there was keloid formation requiring a second operation. Many of the earlier methods of treatment have given fairly satisfactory results, and might perhaps be advised before resorting to such radical measures, but for recurrent and obstinate cases this procedure seems to be a reasonable and justifiable one.

IMAGINARY BRIGHT'S DISEASE PRODUCED BY QUACK ADVERTISEMENTS.

The following clipping is taken from a recent daily paper:

SUICIDE DUE TO CAUSELESS FEAR.

Andrew J. Teggin, an artist, whose pictures have been exhibited at the Academy of Design, took chloroform to-day and died soon afterward at the New York Hospital. Teggin's death was the end of five years' dread of Bright's disease. Though eminent specialists had assured him he had no symptoms of the disease, he persisted in believing that he was doomed to die from it, and this so worked on his mind that he killed himself rather than wait for the end he felt sure would come.

No statement of the case of the man's morbid psychology is mentioned, but the following passage published prominently in another portion of the same paper is highly suggestive:

TEST YOUR KIDNEYS.

Let some morning urine stand for twenty-four hours in a glass, or bottle. If then it is milky or cloudy or contains a reddish brick-dust sediment, or if particles or germs float about in it, your kidneys are diseased.

Could anything be more fiendishly deceptive? The fact that the "remedy" that this advertisement proclaims has been on the market for many years, and that, to our knowledge, this particular trap has been laid for some years, indicates that there must have been many victims. Imagine the horror that must fill the mind of the poor fellow who views a cloud of phosphates or bacteria, which can hardly fail to be present in the urine left in a "glass or bottle," as he appreciates that he is in the clutches of the dread Bright's disease; for does he not know that this is as surely fatal as is cancer or consumption. And if, because of winter's cold, no bacterial development occurs, and the urine remains clear, does he escape? Not if the advertiser knows it! For in that event there is provided the alternative of "a reddish brick-dust sediment" of uric acid coming down in the acid urine.

What must be the sum total of the secret worry, the growing fear, the startling terror at every mention of the death of some one from Bright's disease, among the many who have been deluded by this simple advice to "test your kidneys." If we did not know the mental attitude of the charlatan, far more heartless than that of gambler, swindler or other criminal who defrauds by means that do not rest on the victim's very hope of life and health, we could not believe that he appreciated the results of his insidiously worded lures. But he does fully; every mail brings him letters full of the terror of the fatally ill, the hope of the dying, the last clutch at the straw, and all these are cheerfully turned to profit. Weir Mitchell, in "The Autobiography of a Quack," has accomplished the remarkable feat of depicting a character without one spark of humanity, without a quality that might give one hope of some hidden redeeming grace—and such a character must be necessary for the hero of such a tale.

1. Janssen: Arch. f. klin. Chirurgie, 1902, vol. lxvii.

DEATH OF DR. W. E. B. DAVIS.

As we go to press the sad news reaches us by telegram of the death from accident of Dr. W. E. B. Davis of Alabama. There could be hardly any death that would more shock the profession generally than his, cut off in his early prime with an enviable record behind him and every promise of greater usefulness and distinction in the future. There are few, if any, who had more than he the faculty of winning friendship and holding it; his personality was a most strikingly gracious one and of the very best type of southern gentleman. The official positions of honor, trust and responsibility to which he was called indicate the appreciation given to his abilities and personal qualities, both by his associates in his particular specialty and by his professional brethren generally. It is customary to say nothing but good of the dead, but in this case there are no mental reservations, nothing else could be said.

THE ITHACA TYPHOID EPIDEMIC.

With all our progress in hygiene and sanitation we have occasional examples of how things ought not to be in this particular line. According to the press reports such an instance is very strikingly given in the condition of Ithaca, N. Y., at the present time.[1] The case is the more notable in that the town is the seat of one of our largest universities where lack of information as to up-to-date sanitation can hardly be presumed to exist. The university, of course, does not have the town sanitation under its charge, but the town authorities can reasonably be assumed to have had ample chances of enlightenment on such matters. Where they seem to have been blameworthy is in not sufficiently guarding the sources of their water supply, which has apparently been proven to be the cause of the present outbreak of typhoid in the town. The alleged fact that the university itself is a large stockholder in the water company supplying the polluted water is also a serious indictment against its authorities; it is unfortunate—to say the least—if it has been even a passive agency in the spread of the disease. It is charged by the newspapers, moreover, that their negligence was not altogether passive; that the executive authorities of the institution were requested by the senior class that meas-

1. THE JOURNAL, under New York News, Feb. 7, 14, 21 and 28.

ures should be taken to supply uninfected water and the request was refused. If these allegations are true the aspect of the case is more serious. We hope there is some mistake as to the facts. While the charges do not necessarily imply moral obliquity or intentional and deliberate recklessness as to human life, the alleged neglect and oversight is of the class of blunders that are, as Napoleon said, sometimes worse than crimes. It will be a lesson to authorities and trustees of institutions who fail to appreciate their responsibilities.

SUBSTITUTION AND ADULTERATION.

The recent utterances of the New York health commissioner showing the adulteration in the pharmaceutical retail drug trade, and still later remarks of the chemist of the Agricultural department to the New York Society of Medical Jurisprudence, alike indicate the existence of an evil that especially affects the medical practitioner.[1] If we can not depend on the dispenser for pure articles in our prescriptions the administration of medicine is a farce, and we had better go back to the old saddle bag or the more modern buggy case. If reputable drug stores, such as are many of the 300 from which the samples were obtained by the New York health commissioner, can not be relied on, the situation would seem to be discouraging. We can not lay everything to the retailers, however; they are themselves often victims and the matter needs further investigation. The foundation of a government drug laboratory, which would keep track of the standard preparations and check adulteration, would be a boon not only to the medical profession, but to its patrons. Of course, the manufacturers of the adulterated proprietary drugs make the most of it, but to a certain extent the high prices placed on their preparations which would otherwise be more readily available give them a certain responsibility for the evil. We hope the investigation will not be dropped until the evil practice is ended.

DICHOTOMY, OR THE DIVISION OF FEES.

It seems that the evil of commissions and division of fees is not confined to this country. They have it abroad, in Belgium, for example, where it has recently been brought before the Council of the College of Physicians, though they give it a name which seems a little pedantic. They call it dichotomy, perhaps with the idea of making it less likely to attract public attention. Here we are not so careful as we might be in this regard. Whatever scandal we have is made public from its beginning—to some extent to our disadvantage. The official decree promulgated by the Council is that a physician may not charge a commission of a surgeon to whom he sends a case and no surgeon may allow such a fee. The attending physician may only charge for his own work and his assistance that he has given in the surgical operation. Of course, this decree is favorably commented on by such foreign journals as have noticed it. They point out that a patient feeling himself the victim of a double charge will have less confidence, not only in his medical attendant, but in others in the transaction, and not only his attendant, but the whole medical body will suffer in prestige. It would seem that this particular point might be made a little more prominent in our medico-ethical codes. It is interesting, however, to know that trouble with this problem is common on the other side of the Atlantic. There is a sort of sinful satisfaction in knowing that our countrymen are not the only sinners.

1. See THE JOURNAL, Feb. 21, 1903, p. 525.

Medical News.

MARYLAND.

State Care of Insane.—In the recent annual report of the lunacy commissioner of Maryland state care of the insane is urged. "Already 5 or 6 counties send all their insane to the state institutions and many other counties care only for a few demented cases. The time is ripe for a radical change from county to state care. . . . Spring Grove and Springfield hospitals are models of their kind, the former adapted to the care of the more acute cases, the latter for chronic cases. It is to be regretted that Bayview, the city asylum, is not dispensed with. It is manifestly improper to attempt to care for the city paupers and the city insane under the same management. Either the city should maintain a separate asylum for its insane, apart from the almshouse, or what would be far better, acquiesce in the plan of state care. If the two state hospitals, Spring Grove and Springfield, were enlarged, the insane of the state could be cared for in a far better manner and really at lower cost than under the present system." Discussing the increase of alcoholism and the use of drugs as promoting insanity, the report continues: "Recent enactments by the legislature make it possible for such persons to be committed for a period, under the jurisdiction of our courts, and it would work great good if this provision of the law was oftener availed of. It is perfectly feasible to have at Springfield a colony of inebriates, committed for a definite period, who could be recommitted on the first offense after leaving the colony. An incalculable amount of good might be accomplished by this system."

Baltimore.

Personal.—Dr. William Howell, dean of the Johns Hopkins Medical School, was the guest of honor, February 21, at the annual banquet of the New England Alumni of the Johns Hopkins University, held at Boston.——Dr. I. H. Elderice broke his knee-cap in attempting to board a street car February 19.

Abortionist Convicted.—Dr. William B. Hawkins, who forfeited bail and was arrested in Philadelphia, was convicted in the criminal court February 19, of manslaughter, in causing the death of a young woman here in November, 1901, by criminal operation. The penalty ranges from nominal fine or imprisonment to ten years in the penitentiary. It was the second trial, the jury disagreeing at the first trial, last October. Motion for new trial was made.

Health Report.—There was a still further decrease in the number of cases of measles reported last week, the number being 86. With this decrease the death-rate between the whites and blacks assumed its normal proportion, about 1 to 2. Whether this is a mere coincidence is unknown. There were 34 deaths from pneumonia, 6 from measles and 11 from la grippe. One case of smallpox was reported in a sailor who is supposed to have contracted it down the bay.

Hobbies Help College.—The late Dr. William H. Crim had two hobbies, the Fifth Maryland Regiment, of which he was for many years surgeon, and his extensive and valuable collection of antiques. Many of these antiques are of interest on account of their association with royal personages or with distinguished citizens, as Washington, Lafayette, etc. His widow has just died and in her will she has made large reversionary bequests to the University of Maryland School of Medicine, for the establishment of a professorship and scholarships for poor young men studying medicine. The struggles which her husband made to acquire his professional education led her to think that she could not make a more worthy disposal of his property or more suitably perpetuate his memory, than by providing for similar cases. The amount which will be available is at present uncertain, as it depends on the result of the sale of the collection, which represents Dr. Crim's entire fortune, as he left no real estate nor life insurance. It will probably be taken to New York, where it will bring a

large price, possibly $100,000 to $200,000. The will provides a trust by which four persons, relatives of Dr. and Mrs. Crim, are to receive the benefit of the estate during life, and on their death the whole estate, except $25,000 which is specifically bequeathed, is to pass to the University. One of the specific bequests is $5,000 to Dr. John G. Jay, Dr. Crim's physician.

NEW YORK.

Donation to **Hospital.**—Mrs. Charles D. Vail has given $6,000 to the City Hospital, Geneva, to finish and furnish the wings now being erected.

Demand **Registration of Nurses.**—Several hundred physicians and citizens of Buffalo and Rochester have signed a petition favoring the bill demanding registration of trained nurses to be introduced at Albany this week. The bill is designed to shut out incompetent nurses and provides for extended training before registration.

To Render **Immediate Aid.**—The New York Central Railroad has perfected a hospital and medical system. Contracts have been made with hospitals and physicians in all cities and towns of any prominence along the line of the road. The new system has been adopted so that immediate medical service may be rendered in case of train wrecks or other accidents to employes or passengers.

The Ithaca **Epidemic.**—The State Commissioner of Health, Dr. Daniel Lewis, New York, visited Ithaca, February 24, to investigate the typhoid fever situation. He found that contaminated water was the specific cause of the epidemic, and expressed his belief that the epidemic was on the wane, as less than one hundred serious cases then existed in the city. He believed, also, that the highest mortality rate had been reached and that the mortality of the epidemic throughout had been relatively low.

Coroner's **Office Recommendations.**—A committee of the New York County Medical Association, consisting of Drs. Stephen Smith, E. Eliot Harris and Harry R. Purdy, presented to the association a report containing the following recommendations:

1. The duties of investigating sudden deaths should be transferred from the coroner to the health department. 2. The present legal duties of the coroner should be turned over to the district attorney's office. 3. The judicial duties of the inquest should go to the magistrate's court. 4. Duties, other than those pertaining to the inquiry into the cause of death and the inquest, should go to the city chamberlain.

The report was referred to the committee on legislation, with instructions to endeavor to secure the legislation necessary for carrying into effect the recommendations contained in this report.

Buffalo.

Personal.—Dr. Devillo W. Harrington and Dr. Charles McCarthy are spending a vacation in Mexico.——Dr. Charles Van Bergen, Buffalo, will spend the summer abroad.——Dr. Earl P. Lothrop has gone to Florida.——Dr. Edward J. Meyer is taking a southern trip.

January Mortality.—The monthly report of the department of health for January shows an annual death rate of 14.3 per 1,000. Among the principal causes of death are pulmonary consumption, 42; typhoid fever, 16; debility, 32; cancers, 21; apoplexy, 26; meningitis, 13; valvular heart disease, 20; pneumonia, 53; nephritis, 19, and violence, 17. The total deaths for January were 441, as compared with 381 in January, 1902.

Marine-Hospital Commission.—The commission appointed by the government to select a site for the proposed marine-hospital in Buffalo has arrived. It is composed of Surgeon Louis A. Williams, U. S. Marine-Hospital Service, and Mr. F. B. Wheaton, of the supervising architect's office. They are under orders from the Secretary of the Treasury and are to report to him at the conclusion of their investigations.——Congress appropriated $125,000 for a marine hospital at Buffalo and the act provided that not more than $25,000 should be spent on a site.

University Day.—University Day exercises were celebrated by the medical department of the University of Buffalo, February 23. The public exercises took place at the Star Theater, where Prof. Herbert L. Willett of the University of Chicago delivered the address. In the afternoon a reception was given to the senior and junior students and the faculty at the home of the dean of the medical department, Dr. Matthew D. Mann. In the evening a reception was tendered at the college building by the alumni association.

New York City.

Personal.—Dr. St. Clair McKelway, Brooklyn, a life member of the State Board of Regents, has resigned on account of failing health and numerous other demands on his time.

German Hospital Report.—The annual report of this hospital shows that in the year 1902, 3,247 patients were admitted, of whom 2,632 were non-paying. The average daily number of patients was 176.

Druggists Arrested.—According to the chemist of the health department, 40 out of 215 druggists were found to be selling Jamaica ginger and aromatic spirits of ammonia adulterated with wood alcohol. Some of these druggists have been arrested in consequence.

Grip and Pneumonia Prevalent.—According to the records of the health department there has been a rapid increase in the number of cases of influenza, though the disease is of a mild type. In the past three weeks the deaths from pneumonia were 155, 210 and 190 respectively.

Hospitals Under Financial Stress.—The serious financial situation that confronts the New York hospitals has led George MacCulloch Miller, president of the Saturday and Sunday Association, to make an urgent appeal for generous gifts in behalf of the 40 institutions in the association.

Disregard of Diphtheria Antitoxin.— Dr. J. H. Raymond of the health department complains of the unnecessarily high death rate from diphtheria in the Borough of Brooklyn, i. e., 18 per cent., and maintains that if diphtheria antitoxin were more promptly and generally employed, this death rate would not be over 7 per cent.

The Aronson Serum Tried.—The first trial in this city of the new serum for scarlet fever has been made by Dr. Louis Fischer. The serum used was that discovered by Dr. Hans Aronson of Berlin, and with which experiments have been made by Dr. Adolf Baginsky since last summer. Dr. Fischer reports that although his case of scarlet fever was severe a prompt amelioration of all the signs and symptoms followed the use of the serum.

Substitution Enjoined.—At a special term of the Supreme Court a final decree was entered in the case of Fairchild Brothers and Foster vs. John H. Everhardt et al., whereby the defendants are enjoined from dispensing any essence of pepsin or preparation not manufactured by the plaintiff, in imitation of, or in substitution for, Fairchild's essence of pepsin, whenever Fairchild's product is asked for. Damage to the amount of $250 and costs of $42.72 were assessed on the defendants.

PENNSYLVANIA.

Sewer Suit.—Martin G. Peifer and wife have sued the city of Lancaster for $10,000 damages, alleging that owing to the flooding of a cellar by a sewer several cases of typhoid fever were caused in the family.

Smallpox Closes School.—The students of the Edinboro State Normal School, several hundred in number, have all left the institution and gone to their several homes because of the presence of smallpox in the town.

Hospital Room Endowed.—The Columbia Hospital, Columbia, has received from the widow and children of the late H. H. Houston of Philadelphia, a gift of $5,000 for endowing a room to be called the "Houston Memorial Room."

Wholesale Vaccination.—The H. C. Frick Coke Company has issued an order that all of its employes and their families be vaccinated. It is said that fifty physicians have been engaged for the work and that $10,000 worth of vaccine virus has been purchased for the vaccination of the 300,000 individuals affected by this order.

To Abolish Secret Remedies.—A bill has been introduced into the legislature providing that proprietary and patent medicines shall bear on the label a copy of the formula, including the several ingredients and the quantities of each. The bill provides, also, that none but a regular graduate of pharmacy properly registered under the laws of the state may prepare such medicine. Violation of the act renders one liable to a fine of $1,000 and imprisonment for one year, or both, one half the fine to go to the informer.

Urge Stringent Regulations.—Dr. Hugh Hamilton, Harrisburg, on behalf of the Dauphin County Medical Society, has presented a memorial to the committee on judiciary general of the house of representatives, urging the passage of the "act to establish a medical council," which has been referred to in THE JOURNAL. They say, in part:

There is need for a general law requiring every one who claims to heal or treat the critically ill, the trusting sick or gullible ailing

public, to be examined by the medical council. Without such a law it would be a manifest wrong to permit the collection of money for incompetent work, whether the "tort" or fraud was intentional or not.

Sanatoria for Poor Consumptives.—A bill has been introduced into the legislature providing an appropriation of $500,000 for the erection of two sanatoria for poor consumptives. The institutions are to be similar, one to be located in the Pocono Mountains, the other probably at Mont Alto. The institutions are to be so constructed as ultimately to accommodate at least 2,500 patients each. The state forestry reservations are to provide the sites. The governor is authorized to appoint a commission of five to be known as "The Pennsylvania State Tuberculosis Commission," and this commission is to select the sites, construct the buildings, and administer the institutions.

Philadelphia.

Alleged Physician Arrested.—F. D. Clark, who claims to be a physician, is held by the police awaiting the result of an illness said to be due to an illegal operation performed by him five days before on a young girl who was brought to the Jewish Hospital suffering from peritonitis.

University Day.—On the occasion of "University Day" celebration, February 21, by the University of Pennsylvania, Dr. S. Weir Mitchell delivered an address on "George Washington in His Letters." Brigadier-General Leonard Wood, M.D., U. S. Army, was one of five to receive the honorary degree of doctor of laws.

Medical Appointments in National Guard.—Among new appointments made by the governor are those of Dr. Robert G. LeConte as surgeon-general to succeed Dr. John V. Shoemaker; Dr. George M. Coates, surgeon of the Second Regiment, with the rank of major, and Dr. Ross H. Skillern, assistant surgeon, with the rank of first lieutenant and assigned to the same regiment.

Typhoid, Smallpox and Deaths.—The epidemic of typhoid fever is gradually abating. Smallpox continues to prevail to an extent to cause uneasiness among the health officials. During the week ended February 21, 25 new cases of smallpox were reported and 6 deaths from the disease. During the same week there were 582 deaths from all causes. The extreme cold weather is considered partially accountable for the increased death rate.

A Deserved Honor.—Dr. Simon Flexner, professor of pathology at the University of Pennsylvania, has been chosen as chief of staff of the Rockefeller Institute for Medical Research, to be located in New York. Dr. Flexner gained especial distinction by his work on "The Etiology of Dysentery" and "Snake Venoms." He was a member of the commission sent to the Philippines by the Johns Hopkins University to study diseases peculiar to those islands.

Contract for Hospital Awarded.—The contract for building the new Municipal Hospital has recently been awarded at $143,210. It is to be built on the new site in the Thirty-third Ward, and is to be completed in 190 working days. The structure is to be a colonial building, 200 feet in length by 150 feet in depth. For smallpox patients there will be two large wards, each 150 by 35 feet; several smaller wards will be constructed for patients with other contagious diseases. An ordinance is pending to sell the present Municipal Hospital and grounds.

GENERAL.

Manila Cholera Report.—Manila is free from cholera, and Santiago Cholera Hospital has been abandoned. If any cholera sufferers are found in Manila in the future they will be cared for at San Lazaro Hospital. Santiago Cholera Hospital was opened March 27, 1902, and up to Jan. 1, 1903, cared for 1,268 cases of cholera. The average mortality was 65.28 per cent. The Americans cared for numbered 146, the mortality among them being 32.87 per cent. Dr. Lindley, who has been in charge, has done very faithful and efficient work.

Whiting Still at Large.—Despite the notices which have already appeared in THE JOURNAL warning the medical public against F. Whiting, who represents himself as an accredited agent of the American Medical Association, and of THE JOURNAL, he is still at large and pursuing his fraudulent way through the East. During the last week we have received advices that this individual has been operating in Greene, N. Y., and Bath, Pa. The police authorities of Reading are on his track, and any information sent to the Chief of Police, Reading, Pa., or to THE JOURNAL will be appreciated.

CANADA.

Proposed Infirmary for Victoria, B. C.—A meeting was held recently in Victoria by those interested in establishing an infirmary in that city, in connection with the isolation hospital.

Typhoid Outbreak Among Nurses.—Five nurses of the Royal Victoria Hospital, Montreal, are convalescing from typhoid fever. Five years ago there was a similar epidemic. The authorities have found nothing at fault in the sanitary arrangements of the hospital.

McGill Graduates in British Columbia.—At the annual meeting of the British Columbia graduates of McGill University, held February 14, Dr. D. H. Harrison, the oldest graduate in that province (1864), was elected to the presidency. It was decided to continue the $50 prize to the best B. C. matriculant each year to McGill, and $25 to the second best. Dr. McGregor, Vancouver, founder of the society, was re-elected secretary; Dr. Tunstall, Vancouver, treasurer, and Dr. G. H. Manchester, New Westminster, one of the vice-presidents.

A Hygienic Institute for the Western University, London.—A deputation, headed by Dr. Robert Ferguson and Dr. H. A. McCallum of London, Ontario, recently waited on the Ontario Cabinet at Toronto, presenting a request that an institute of hygiene be established in London in connection with the Western University. The government has replied that they can not at present accede to their application. The object of the university is to have the government build and maintain an institute equipped with laboratories for the purpose of providing scientific facilities for the prevention and treatment of infectious and epidemic diseases. The petitioners assert that something is due the western section of the province in view of the assistance granted Toronto and Queen's universities; they will prosecute their application at a future date.

Montreal General Hospital Report.—During 1902, 2,878 indoor patients were treated in the wards of the Montreal General Hospital, 55 more than for the previous year. In the outdoor departments there were 31,993 consultations. Of the total number of indoor patients, 166 remained over from the previous year; 2,894 were admitted during the twelve months, and 184 remained in the hospital at the end of the year. There were discharged from the hospital 2,652, and there died in the hospital 226. Of this number 88 died within three days of their admission. The death rate was 7.85, or 4.8 if the 88 were deducted. The total income amounted to $87,439, and the expenditure was $99,967, an excess of expenditure over income of $12,528. The average cost of patients per day was $1.49. At the annual meeting Dr. F. G. Finley was re-elected secretary for 1903.

Montreal Death Rate in 1902.—A striking feature in the death rate in Montreal during 1902 was the decrease of 700 over 1901. This has been, in most part, put down to the fact of the unusual cool summer of last year affecting the infant mortality to a very great degree, but also in part to the general improvement in the health of the city. By months the deaths were as follows: January, 481; February, 426; March, 534; April, 583; May, 547; June, 466; July, 735; August, 587; September, 440; October, 412; November, 484; December, 576. The total number of deaths was 6,271, as compared with 6,915 for 1901. Ten died from smallpox; 76 from measles; 64 from scarlet fever; 57 from diphtheria; 19 from croup; 28 from whooping cough; 26 from influenza; 86 from typhoid fever; 347 from diarrhea; 105 from cholera infantum; 664 from consumption, and 544 from pneumonia. Of 100 cities of America from which statistics could be secured, Hamilton, Ont., had the lowest death rate and Three Rivers, Que., the highest.

FOREIGN.

Tuberculosis Exposition at Odessa.—Russia has been holding an extensive exposition on all matters relating to tuberculosis.

Million to Hospitals.—The lay press reports the Savings Bank of Milan, Italy, as having given $1,000,000 to the hospitals of Lombardy to enable them to introduce the latest discoveries of science.

Dismissal of Suit for Damages Against Medical Journal.—Professor Lewin of Berlin, the author of an article on Antimorphin, denouncing it as containing morphin, and the two editors of the *Deutsche Med. Wochenschrift*, in which it appeared, were sued for damages by the manufacturer. The

suit was dismissed by the court and the costs assigned to the plaintiff.

Efforts by the Profession to Obtain Public Health Legislation.—According to the *Klin.-Therap. Woch.*, the medical chambers of Austrian Tyrol threaten that their members will go on a strike (*in den strike zu treten drohen*) if the members of the legislature do not abandon their obstruction of the measure in regard to matters affecting the public health. The measure was first brought up in 1900.

Parasite to Exterminate Mosquito.—It is announced by cable from Berlin that Dr. Dempwolff, who succeeded Professor Koch as the head of the German anti-malaria expedition to New Guinea, announces that he has discovered an aquatic insect which destroys the anopheles mosquito, and that he proposes to cultivate the creature artificially in the hope of exterminating the mosquito, thereby exterminating malaria.

Does Gypsum Dust Cure Tuberculosis?—The medical faculty of Berlin have been informed that there is no case of tuberculosis among the members of the Berlin Plaster-of-Paris Workers' Union, in spite of the fact that many were tuberculous when they entered the trade. Similar observations from other sources concerning workers in this material make a foundation for an investigation, and there is, therefore, issued an appeal for evidence and investigation.

Bier Called to Bonn.—Dr. A. Bier, professor of surgery at Greifswald, has accepted a call to Bonn as successor to the late Professor Schede. Bier is only 41, and yet his name has long been quoted as the discoverer of spinal cocainization, and the therapeutic application of passive congestion, or *Stauungshyperemie*. It is a curious fact that he is not at all enthusiastic in regard to spinal cocainization, but expressly warns against its dangers. It owes its vogue entirely to others.

Polar Expedition by a French Physician.—Dr. Jean Charcot is organizing a polar expedition for scientific research, aided by the Académie des Sciences of Paris and the ministry of public instruction, with private subscriptions. He will be accompanied by de Gerlache, the leader of the recent Belgian Antartic expedition; J. Bonnier, director of a marine laboratory, and several other experts. The Prince of Monaco is interested in the expedition, for which a special ship is being built.

Midwifery and Religious Scruples.—A midwife at Berlin recently refused to assist in an operation required to save the life of the mother but entailing the death of the fetus. Her religion forbade it, she said, and a second midwife had to be procured. Proceedings instituted against her for refusal to obey the physicians' orders resulted in the imposition of a fine and the warning that she must not attempt to serve as a midwife if her religion interfered with her professional duties in such cases.

Secret Medicines in Japan.—Very stringent laws have been enacted in Japan in regard to secret proprietary medicines. The importation of those containing a poison from which accidents might result is absolutely prohibited, as is, also, the sale of those that have deteriorated. The retailer must be informed in regard to the ingredients, proportions and doses, and must specify them in applying to the authorities for permission to sell the medicines. (See the discussion of the papers of Drs. Spratling and Jelliffe in this issue.)

Damages Awarded for Transmission of Syphilis.—The French courts, for the first time, have taken up the matter of venereal transmission of syphilis, and in a suit recently decided at Paris awarded $2,400 to the victim, a girl of 16. It was established that the young man in question knew that he bad syphilis and also was aware of its contagious character, when he commenced the liaison with the girl. It continued for four months before she displayed evidences of infection. The decree states that "the communication of a contagious disease is a misdemeanor (*faute*), even when it does not occur intentionally, and results merely from the imprudence or negligence of the subject."

Blue Electric Light as an Anesthetic.—THE JOURNAL has previously referred to Minin's discovery of the therapeutic and anesthetic value of blue electric light. He has recently found that the anesthesia is sufficient for even important operations, and performed two herniotomies with it practically alone. One was a Bassini on a colonel. Cocain was injected previous to, and the blue light applied during, the operation. In the second case the cocain was omitted, and the ligation of the sac elicited some pain, but not severe. The operation lasted twenty minutes in each, and both healed by first intention. All the minor operations at a certain hospital at St. Petersburg are done under blue light as the exclusive anesthetic. Minin has just been appointed chief of the Nicolaj Military Hospital.

New Campaign Measure Against Fake Ads.—A pharmacist at Herborn, near Wiesbaden, named Stoll, has made an arrangement with the proprietors of the local daily to have space reserved for him after every fake ad. In this space he describes the substances lauded in the flaming ad. above, and states where they can be obtained and the ordinary price. For instance, a display ad. portraying the virtues of "*homeriana*," at so much a bottle, is followed by his statement that homeriana, or bird's knot grass, is a common weed found along the country roads and can be had at all drug stores for a few pennies. The ad. of the "Volta Cross" was followed by his announcement: "Volta Cross, worth 10 cents (according to proclamation of the Berlin chief of police), sold for 75 cents. The manufacturer has been compelled to leave Berlin and has removed to Munich." Stoll's announcement in the Volta Cross matter forced the town authorities to interfere and regulate its advertisement. One of his ads.: "Common weed, found at the Shooting Park and along the roads, etc.," he inserted twenty-seven times. The manufacturers have now abandoned advertising at Herborn.

Report of Committee on Hypnotism.—The Prussian authorities recently requested of the central medical chamber an opinion of hypnotism. The report was recently mentioned in brief in THE JOURNAL. Professor Mendel, as chairman of the committee, states in the report: "Careful distinction must be made between the cure of an affection and the alleviation of its symptoms by hypnotism. No physician claims that it is possible to cure with it an organic affection susceptible of demonstration with our modern diagnostic measures. But hypnotic or waking suggestion is undoubtedly capable of banishing, usually temporarily but sometimes even permamently, the most widely diverse symptoms of the affection—but without curing it. Success is dependent in this case, as in all cases of suggestion, on the greater or less skill of the suggestor, his personality, on external circumstances and on the degree of receptivity of suggestion by the patient. A number of cases are known in which mental disturbances developed in predisposed individuals under hypnotization. Some of these cases occurred with charlatans, but in others the hypnosis had been conducted by physicians."

Correspondence.

Adenoids as a Route of Tubercular Invasion.

LOS ANGELES, CAL., Feb. 16, 1903.

To the Editor:—In Dr. Freudenthal's article on "Adenoids" in THE JOURNAL, Feb. 7, he says: "If, for some reason or other, the path of the tubercle bacillus downward is closed up, by adenoids or other causes, it makes its way to the cranial cavity, where a tuberculous meningitis, so frequent among children, is set up." Such a statement, coming from a man of Freudenthal's prominence, is likely to lead many into wrong conceptions regarding the method of infection in tuberculosis.

Dr. Freudenthal is challenged to explain the anatomic route and steps of infection from the adenoid to the meninges or to any portion of the body, or to the lungs. A great many writers are advancing the theory that nearly all our tuberculous infections, even of the lungs, are through the tonsils or adenoid tissue. In this country Lartigau is the most prominent claimant for this mode of infection. Notwithstanding the prominence of all these writers, they are challenged to show us definitely and unmistakably, or at least anatomically, how these infections take place. We must ask them, how does the bacillus reach the meninges from an adenoid or from a tonsil? Or, to make the problem easier, how does the bacillus reach the lungs from the adenoid tissue or from the tonsils? If these writers admit that the bacilli enter the blood vessels of the diseased adenoid, we could understand then that it was possible for an infection to take place and in such a manner. Or if they contend that it is the lymphatics that pick up bacilli and convey them to their final destination, we are confronted with the fact that these bacilli are, after all, poured into the great veins in the deep angles of the neck unless arrested in the cervical ganglia.

In any or either event, by whatever anatomic route they may follow, the bacilli are emptied into the right side of the heart, traverse the pulmonary circulation, to be sent—we know not where. One can not feel that adenoids and tonsils play much of a rôle in tuberculous infections of any kind except of cervical ganglia.

Writers have accounted for cerebromeningitis and tuberculous meningitis by entrance of the respective organisms into the cranium through the cribriform plate of the ethmoid. It is true that the dura sends processes along the olfactory nerves and that the lymph radicals of these processes empty into the dural vessels. But really is not this reaching out and dragging anatomy in by the hair of the head when we have the greater possibility of these organisms gaining entrance through the great surface-area of the respiratory mucous membrane?

If we examine into the anatomic distribution of the lymphatics of the nasal, pharyngeal, laryngeal and bronchial mucous membrances, we shall note that a bacterium or other foreign body, to reach the circulation through these, would have to run the gauntlet of a numerous outpost of glands established by Nature in this locality for the very purpose of arresting foreign matter. We know that foreign matter, such as coal dust, does reach these glands for the pigment in them is demonstrable, and still there is, comparatively speaking, very little coal dust that reaches the circulation or the glands themselves, through the lymphatics of the upper respiratory tract. It is but reasonable to believe that micro-organisms arrested in lymphatic glands have less chance of reaching the circulation than if they grew in one of our great organs. Lymphatic glands are especially adapted for the destruction of bacteria and probably do so to a very large extent in all diseases except syphilis and the carcinomata. If bacteria, tubercle bacilli especially, enter our bodies through the tonsils and adenoids, as so many writers would have us believe, I would point out and controvert their position by calling attention to the infrequency of infection of the deep cervical glands through which these organisms would have to travel; and to the further observation made elsewhere, that if bacilli do enter the circulation in this manner, it is, nevertheless, the bronchial glands that show the constant arrest of the organisms. Notwithstanding Lartigau's recent report of finding tubercle bacilli in a large percentage of tonsils and adenoid tissue, it is only fair to presume that there certainly could be little difference in the functions of the cervical and bronchial glands and there is no more valid reason to suspect that bacilli will pass the cervical ganglia without harm than that they will pass the bronchial glands without arrest. It is very likely, then, that the resistance of the deep cervical glands is very effective in barring the entrance of bacteria to the circulation.

Usually the first arrest of bacilli is in the bronchial glands. "Pizzini inoculated lymph glands from forty people who had died of accident or acute disease into guinea-pigs. From the results of the inoculation experiments, he concluded that 42 per cent. of healthy people have tubercle bacilli in their glands, mostly in the bronchial. Statistics of the Paris morgue show that a considerable proportion of all who die of accident, or suicide have evidences of some tuberculous disease in connection with the respiratory system" (Lartigau). This observation would lead one to believe that the bronchial glands are combating the constant invasion of small numbers of bacilli more or less successfully; and to have reached the bronchial glands, it is the most reasonable thing to suppose that bacilli have been inspired to the air vesicle itself, penetrated its wall and reached some of the underlying vessels, most often the lymphatic.

Why one should fix his attention on the tonsil or adenoid tissue to explain the infection of tuberculosis is utterly puzzling, when the experiences of the necropsy room show us the lungs of miners, firemen, or those living in dusty environments, pigmented throughout with fine coal deposits. These deposits usually follow the paths of distribution of the lymphatics, and often can be easily traced with the naked eye. In such cases we may find the bronchial glands gritty from this coal dust which had been arrested by these efficient protectors of our bodies.

If coal dust and other dust reaches the lymphatics of the lungs through the air vesicles, as it certainly does, why need we consider the adenoid, or the tonsil, as the principal path of invasion? If coal dust, then why not tubercle bacilli?

Respectfully yours,

J. O. COBB,
Surgeon, United States Marine-Hospital Service.

The First Hepaticotomy—Credit to America.

FREMONT, OHIO, Jan. 30, 1903.

To the Editor:—Some reviews of the history of surgery on the bile ducts, the German literature especially, give Kocher credit for having made the first hepaticotomy. Professor Courvoisier of Basel, Switzerland, in his work on "Pathology and Surgery of the Bile Ducts," published in 1890, also mentions the fact that Kocher made his first hepaticotomy, 8, xi, 1889. Since history principally consists in recording and comparing facts in their relation to human actions I think I may be justified in referring you to a case which I published in THE JOURNAL of the American Medical Association, March 31, 1888, under the title "Operation for Gallstones; Congenital Absence of Gallbladder." It is probably due to the fact that I did not coin a new Greek name for this operation that it has been overlooked, as in all other details it could be called a hepaticotomy. I wrote to Professor Courvoisier about 10 years ago and sent him a copy of the article, in response he said that he did not have access to that number of THE JOURNAL before, but that in his future publications he would give due recognition to the above fact. This has not been done so far, not in Kocher's and Quervain's "Encyklopædie der gersammten Chirurgie," where Courvoisier writes on hepaticotomy, nor in the latest number of the *Archiv f. Klinishe Chirurgie*, vol. 69, where Erich Berger reports on hepaticus drainage in Professor Hans Kehr's klinick. M. STAMM.

State Boards of Registration.

New Arkansas Law.—The new medical practice act passed by the Arkansas legislature and signed by the governor goes into effect 90 days from date of its passage, or early in April of this year. It provides for three boards, homeopathic, eclectic and regular, appointed by the governor from lists furnished by the respective state medical societies. These are to hold four regular stated examinations each year, on the second Tuesdays in January, April, July and October, at such place as the majority may agree on, after consulting the convenience of the boards and the applicants for examination. Any one hereafter desiring to practice medicine in Arkansas must go before a board, making his application to the secretary, with a $10 fee, and submit to examination, which may be written or oral, at the discretion of the board. It must be of a practical character, including anatomy, physiology, chemistry, materia medica, theory and practice of medicine, surgery and obstetrics. If the applicant possesses the necessary qualifications, in the opinion of the board, a certificate will be granted. Certificates must be recorded in the office of the county clerk where the holder is practicing. Temporary permits are allowed on the payment of a $10 fee, but can not continue in force beyond the next meeting of the board, and may in no case be granted within six months after refusal of certificate. No fee is to be charged an applicant who has previously paid the charge for a temporary permit. The penalty for irregular practice is a fine of not less than $25 nor more than $500, or by imprisonment in the county jail of not less than ten days or more than ninety days, or both. Each day of such practice shall constitute a separate offense. Any person is regarded as practicing medicine in any of its departments within the meaning of the act who shall append M.D. or M.B. to his name, or repeatedly prescribe or direct for use to any person or persons any drug, medicine or other agency for the treatment, cure or relief of any bodily injury, deformity or disease, provided that nothing in the act shall be so construed as to prevent the gratuitous administering of domestic remedies or shall apply to midwives. Nothing is specified as regards diplomas, which seem not to be required.

Kansas.—Dr. H. W. Roby, secretary of the Kansas State Board of Medical Registration and Examination, reports the examination held at Topeka, Feb. 10 and 11, 1903, as follows: Number of subjects examined in, 9; total number of questions, 90; percentage required to pass, 70; the examination is written, except in case of those physically unable to write, as paralytics or invalids; total number examined, 22; passed, 20; failed, 2.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
1	R.	Rush Medical College, Chicago	1900	79
3	R.	Rush Medical College, Chicago	1888	71
13	R.	Rush Medical College, Chicago	1902	82
16	R.	Rush Medical College, Chicago	1893	81
2	R.	University Med. Coll., Kansas City, Mo.	1897	71
11	R.	University of Pennsylvania	1898	79
4	H.	Cleveland Homeopathic Medical College	1877	70
5	R.	Kansas City Medical College	1887	70
7	R.	Kansas City Medical College	1898	82
6	E.	Eclectic Medical Institute, Cincinnati	1856	70
8	R.	Am. Med. Missionary Coll., Chicago	1900	78
9	H.	Chicago Homeopathic Medical College	1901	87
10	H.	Hahnemann Med. Coll., Kansas City	1902	83
12	R.	Ohio Medical College	1902	75
14	R.	Bellevue Hospital Medical College	1890	83
15	R.	College of Phys. and Surgs., Baltimore	1902	79
17	R.	Louisville Medical College	1895	75

FAILED.

22	R.	Kansas City Medical College	1901	61

NOTE.—Three other applicants passed and one failed, who had been previously examined as non-graduates and now took further examination in view of the law requiring all candidates to be graduates.

Indiana.—Dr. W. F. Curryer, Indianapolis, secretary of the Indiana Board of Medical Registration and Examination, reports the examination held at Indianapolis in January, 1903, as follows: Number of subjects examined in, 18; total questions, 130; percentage required, 75; written examination; examined, 54; passed, 46; failed, 8.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
1	R.	Kentucky School of Medicine	1902	90.7
2	R.	Kentucky School of Medicine	1902	92.5
3	R.	Kentucky School of Medicine	1902	84.2
6	R.	Kentucky School of Medicine	1902	84.0
27	R.	Kentucky School of Medicine	1902	92.8
28	R.	Kentucky School of Medicine	1902	82.3
29	R.	Kentucky School of Medicine	1902	87.3
38	R.	Kentucky School of Medicine	1901	73.8
44	R.	Kentucky School of Medicine	1901	68.3
45	R.	Kentucky School of Medicine	1902	75.9
46	R.	Kentucky School of Medicine	1902	75.6
49	R.	Kentucky School of Medicine	1902	91.6
7	R.	Rush Medical College	1898	91.3
9	R.	Rush Medical College	1901	91.9
22	R.	Rush Medical College	1895	82.9
26	R.	Rush Medical College	1902	94.4
31	R.	Rush Medical College	1902	92.7
32	R.	Rush Medical College	1902	93.6
33	R.	Rush Medical College	1902	90.8
34	R.	Rush Medical College	1902	92.6
8	R.	Harvey Medical College	1902	93.9
10	R.	Marion Sims-Beaumont	1902	88.1
12	R.	Marion Sims-Beaumont	1902	83.6
11	R.	University of Pennsylvania	1902	92.5
13	R.	Starling Medical College	1901	79.2
14	R.	Miami Medical College	1902	83.0
15	R.	University of Michigan	1902	88.1
30	R.	University of Michigan	1902	90.7
21	R.	University of Michigan	1902	90.2
36	R.	University of Toronto	1894	94.8
37	R.	University of Lausanne, Switzerland	1899	92.1
40	R.	University of Budapest	1900	87.3
41	R.	University of Illinois	1902	92.2
16	R.	College of Phys. and Surgs., Chicago	1900	88.1
42	R.	College of Phys. and Surgs., Chicago	1900	92.6
17	R.	Western Reserve Medical College	1902	93.6
18	R.	Medical College of Ohio	1888	85.9
55	R.	Medical College of Ohio	1877	64.4
19	H.	Hahnemann Med. Coll., Chicago	1902	84.2
24	H.	Hahnemann Med. Coll., Chicago	1901	91.6
48	H.	Hahnemann College of Philadelphia	1902	93.6
23	R.	Northwestern Univ. Med. School	1892	90.2
25	R.	Trinity College, Toronto	1902	89.7
35	R.	Jefferson Medical College	1902	93.5
43	R.	Jefferson Medical College	1901	91.8
39	R.	Kentucky University Medical Dept	1901	94.6
47	R.	Harvard University	1902	94.5
50	R.	Illinois Medical College	1902	90.8
52	R.	Illinois Medical College	1902	91.9
53	R.	Chicago Medical College	1887	85.0
54	R.	Hamlin University	1901	84.1

FAILED.

4	R.	Ohio Medical University	1897	75.2
5	R.	Louisville Medical College	1901	77.9
51	R.	College of Phys. and Surgs., Keokuk	1885	*

* Incomplete.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

PRIORITY IN COLLES' FRACTURE REDUCTION METHOD.

CHICAGO, Feb. 23, 1903.

To the Editor:—On page 542 of your February 21 issue I notice an item from the *Northwestern Lancet*, Minneapolis, by A. M. Pond, on "Some Considerations of Colles' Fracture." The method of reduction which he describes is not original, as it has been delineated at some length by Joseph Griffiths in the *British Medical Journal* of Dec. 7, 1901. I am in perfect accord with the treatment and results obtained as I have used the same method for some time, my attention being first directed to it by the article above named.

ARTHUR ATWELL SMALL.

ANS.—Pond said he had never seen the method described.

ARTIFICIAL MUD BATHS WANTED.

CONFLUENCE, PA., Feb. 16, 1903.

To the Editor:—Please inform me where I can get fango for mineral mud treatment as mentioned in THE JOURNAL, p. 447, February 14; also where I can get additional literature on the treatment.

R. J. HEMMINGER.

ANS.—Fango is the name used in Italy for the mud-bath treatment. The material is said to be a sort of finely divided volcanic earth. We presume that it has no very special properties over those possessed by the medical mud baths in this country. We know of no way by which it could be obtained in this country. There is no special literature known to us on the "fango" treatment in our language, and not very much on mud baths, except what is given in general works on balneology, etc.

MEDICAL PRACTICE QUERIES.

BLOOMFIELD, IOWA, Feb. 23, 1903.

To the Editor:—Please inform me as to the requirements to practice medicine in Kansas, also the name of the secretary of the state board, with address. C. L. KEMBEL.

ANS.—A diploma and examination are, we believe, now required. Dr. H. W. Roby, Topeka, Kan.

BALTIMORE, Feb. 15, 1903.

To the Editor:—Will you kindly inform me if the Maryland State Board will register any one who has successfully passed the Pennsylvania Board, without requiring an examination in Maryland? If they do, how much registration fee.

Yours most respectfully, A. H. BRAECKLEIN.

923 Barre Street.

ANS.—The board of examiners are authorized to do so if they consider the requirements equal to their own. Write them.

Marriages.

D. L. ROSE, M.D., Sherman, Mich., to Miss Gale Hooper of Battle Creek, Mich., January 31.

CYRUS W. STRICKLER, M.D., to Miss Annie Virginia Williams, both of Atlanta, Ga., February 25.

G. H. RATHBUN, M.D., Roubaix, S.D., to Miss Mollie McArthur, at Lead, S.D., February 9.

WILLIAM W. MELOY, M.D., Chicago, to Miss Charlotte A. Logan of Brooklyn, N. Y., February 25.

Deaths.

William Elias Brownlee Davis, M.D.

A telegram received by THE JOURNAL just before going to press announces that Dr. W. E. B. Davis was killed Tuesday night, February 24, by being thrown under a moving train by a frightened horse. Thus suddenly has ended a life of more than ordinary usefulness, and the shock will be felt not only in the south, where he was so well known and loved, but all over the country. The loss to the profession is great; he was, first and always, a polished gentleman; in his chosen field of gynecology and surgery he was a leader of men, and in his intercourse with his professional fellows he was the personification of ethical courtesy.

He was born in Trussville, Ala., Nov. 25, 1863, and was, therefore, 39 years of age. He was the third in a line of

physicians. After being graduated from the University of Alabama, he took up the study of medicine in 1881 under the preceptorship of his brother, Dr. J. D. S. Davis of Birmingham. After attending three courses of lectures, the last of which was taken at Bellevue Hospital Medical College, he was graduated from that institution in 1884. He then practiced in Birmingham with his brother for three years, after which he studied in the hospitals of London, Berlin and Vienna for two years. On his return to America he practiced for a short time in Rome, Ga., and then returned to Birmingham, where he since resided and practiced with his brother, Dr. J. D. S. Davis, devoting his attention chiefly to operative gynecology.

He was an honored member of many medical societies—the American Medical Association, vice-president in 1891, secretary of the Section on Surgery in 1890, and chairman of the Section on Obstetrics and Diseases of Women in 1899; Medical Association of the State of Alabama; Jefferson County Medical Society; Birmingham Medical Society; Southern Surgical and Gynecological Association, secretary, 1888 to 1900, and president, 1901-1902; American Association of Obstetricians and Gynecologists, vice-president in 1895, member of executive council, 1897-1900, and president, 1901; honorary president of the Section on Gynecology and Abdominal Surgery of the first

WILLIAM ELIAS BROWNLEE DAVIS, M.D.

Pan-American Medical Congress, Washington, D. C., 1893; honorary member of the British Gynecological Society; one of the founders of the Alabama Surgical and Gynecological Association, and its secretary in 1887-1888; Tri-State Medical Society of Alabama, Georgia and Tennessee, and its president in 1892; honorary member of the Medical Society of the State of New York.

He was surgeon to the Birmingham Hospital of United Charities in 1891-1892, and through his efforts a department of diseases of women was established. In 1894 he was elected professor of gynecology, obstetrics and abdominal surgery in the Birmingham Medical College.

Dr. Davis and his brother were editors of the first medical journal to be published in Alabama, the *Alabama Medical and Surgical Journal*, in 1886 and 1887; from 1890 to 1893 he was editor of the gynecological department of the *Alabama Medical and Surgical Age*, and he was associate editor of the *American Gynecological Journal*. His contributions to medical literature were numerous and valuable. Most of his later work was in the line of abdominal surgery, surgery of the bile-ducts.

He was buried from the South Side Baptist Church, Birmingham, February 27, at 11 a. m.

John Frank Valentine, M.D. College of Physicians and Surgeons, New York, 1879, for 12 years surgeon of the Thirty-second Regiment, N. G., S. N. Y., coroner's physician, chief surgeon of the Long Island Railroad, member of the Queens-Nassau Medical Society, and past president of the New York State Association of Railway Surgeons, died from typhoid fever at his home in Richmond Hill, Long Island, February 4, after an illness of several weeks, aged 46. The medical staff of St. John's Hospital, of which Dr. Valentine was president, at a special meeting, February 6, passed resolutions of respect and regret.

Caleb W. Hornor, M.D. Jefferson Medical College, Philadelphia, 1849, who did a large and distinguished work during the Civil War, being in charge of various important hospitals and chief medical officer of the Freedmen's Bureau, in the course of which he organized and administered over 80 hospitals and dispensaries throughout the south, died at his home near Bryn Mawr, Pa., February 8, from pneumonia, after an illness of two weeks, aged 74. He was a member of the American Medical Association.

Earle Eugene Woolworth, M.D. New York University, 1897, died February 5 at the Brooklyn Hospital from injuries received in a runaway accident, January 21, aged 30. He resided in Brooklyn and was a member of the New York State Medical Association, the Kings County Medical Society and the Alumni Association of the City Hospital.

Vincent P. Kennedy, M.D. Rush Medical College, 1856, a pioneer resident of Meeker County, Minn., surgeon of the Fifth Minnesota Volunteer Infantry in the Civil War, a member of the state legislature for two terms, died from uremia at his home in Litchfield, Minn., February 13, aged 79. He retired from active practice in 1888.

Harry Herbert Hurst, M.D. University of Pennsylvania, Philadelphia, 1897, member of the Pittsburg Pathological Society and former president of the Wilkinsburg Medical Club, died at his home in Wilkinsburg, Pa., from typhoid fever, January 31, after an illness of five weeks, aged 28.

Benjamin T. Shimwell, M.D. Jefferson Medical College, Philadelphia, 1875, formerly professor of surgery at the Medico-Chirurgical College, and a member of the American Medical Association, died at the Medico-Chirurgical Hospital, Philadelphia, from consumption, February 5, aged 51.

Gustavus Bruhl, M.D. University of Munich, Bavaria, 1848, a member of the American Medical Association, and an ardent student of ethnology and history, died from apoplexy at his home in Cincinnati, February 16, aged 76.

Henry Hulme Warburton, M.D. London Hospital School of Medicine, the pioneer physician of the Pacific Coast, where he had practiced since 1847, died at his home in Santa Clara, Cal., from pneumonia, February 9, after an illness of four days, aged 83.

James H. O'Toole, M.D. Medical School of Maine, Bowdoin College, Brunswick, 1880, a member of the Massachusetts Medical Society, died from angina pectoris at his home in Charlestown, Mass., January 27, after a short illness.

Frank O'Neil, M.D. University of Southern California, Los Angeles, Cal., a member of the medical staff of the Southern Pacific Railway, died at a construction camp 80 miles west of Nevada City, January 19, from pneumonia.

David Munro, M.D. Faculty of Medicine of Queen's University and Royal College of Physicians and Surgeons, Kingston, Ontario, 1867, died suddenly from heart disease at his home in Perth, Ont., February 7, aged 61.

Nelson B. Sisson, M.D. University of Louisville, Ky., 1846, died at his home in Porter, Ohio, January 28, aged 82. During the Civil War he served as assistant surgeon of the Ninety-second Ohio Volunteer Infantry.

Edward von Donhoff, M.D. Heidelberg, Germany, formerly professor of surgery in Louisville Medical College, died in Bellevue Hospital, New York, from the excessive use of drugs and dissipation, February 7.

Charles C. Warden, M.D. Ohio Medical College, Cincinnati, 1843, the first physician to locate in Ottumwa, Iowa, who retired from practice in 1856, died at his home in Ottumwa, February 14, aged 86.

Flavien Dupont, M.D. Laval University, Quebec, 1880, formerly of Montreal, but for the last three years a resident of Boston, died at Notre Dame Hospital, Montreal, from Bright's disease, aged 40.

John Morris, M.D. Starling Medical College, Columbus, Ohio, died at his home in Chicago, from heart disease, after a long illness, aged 67. He had not practiced since the close of the Civil War.

Henry Tomboeken, M.D. Rush Medical College, Chicago, 1866, who retired from practice in Chicago in 1898, died at

Terre Haute, Ind., from cancer of the stomach, February 7, aged 65.

Walter Pardee, M.D. Cleveland (Ohio) University of Medicine and Surgery, 1860, died at the home of his son in New York City, February 11, after an invalidism of twenty years, aged 80.

Gertrude H. Woodworth, M.D. Hahnemann Medical College, Chicago, 1897, died at her home in Chicago, February 10, from the effects of chloroform taken with suicidal intent, aged 55.

Doctor N. Porter, M.D. Kentucky School of Medicine, Louisville, 1851, who retired from active practice ten years ago, died suddenly at his home in Eminence, Ky., January 29, aged 87.

John C. Whaley, M.D., state senator, and for many years a practitioner of Osceola, Mo., died at his home in that city, February 3, from pneumonia, after a short illness, aged 64.

Alonzo D. Root, M.D. Cleveland Medical College, 1871, died at his home in Crete, Neb., from chronic Bright's disease, after an illness of several years, February 8, aged 66.

George A. Harris, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1873, died suddenly from heart disease at his home in Bridgeton, N. J., February 9, aged 58.

John E. Wood, M.D. Starling Medical College, Columbus, Ohio, 1894, died at his home in Marysville, January 27, from consumption, after an illness of four years, aged 29.

George H. Douglas, M.D. Tulane University, New Orleans, 1886, quarantine surgeon at, and formerly mayor of, Morgan City, La., died recently at Pensacola, Fla., aged 42.

Henry M. Ptolemy, M.D. Detroit College of Medicine, 1889, died at his home in Brighton, Mich., February 16, from Bright's disease, after a lingering illness, aged 47.

Charles B. Leavitt, M.D. University of Pennsylvania, Philadelphia, 1882, died at his home in Trenton, N. J., from pneumonia, February 8, after an illness of two weeks.

Henry Newland, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1876, died at his home in Los Angeles, Cal., January 7, after an illness of two years, aged 75.

Ralph L. Seckler, M.D. University Medical College of Kansas City, Mo., 1900, of Basehor, Leavenworth County, Kan., died recently in San Francisco, from paralysis.

Charles Wetherill Gambes, M.D. Jefferson Medical College, Philadelphia, 1864, died suddenly from heart disease at his home in Oaks, Pa., January 31, aged 62.

Frank C. Hoegel, M.D. Western Pennsylvania Medical College, Pittsburg, Pa., 1897, died from typhoid fever at his home in Allegheny, Pa., February 2, aged 27.

John M. McFarland, M.D. Tulane University, New Orleans, 1870, died at his home in Rivera, Cal., February 13, aged 55.

David F. Van Aken, M.D. Albany Medical College, 1860, died at his home in Malden, N. Y., January 30, aged 69.

Association News.

THE NEW ORLEANS NUMBER.

Announcement of the Special Number of THE JOURNAL *for April 11.*

The issue of THE JOURNAL of April 11 will be the special New Orleans Number and will be an announcement of the coming fifty-fourth annual meeting of the American Medical Association, to be held at New Orleans May 5 to 8, 1903. It will contain an illustrated article on Louisiana and New Orleans, their history and points of interest, and will give all the facts possible about the arrangements for the meeting, including a list of hotels, with rates, railroad rates, fare from important centers, announcement of special trains, side trips, excursions, opportunities for sight seeing, entertainments, schedules of meetings, places of meeting, etc. It will also contain the preliminary program of each of the sections.

In this number all special trains should be announced. We therefore ask every committee or official to send us at an early date detailed information of such trains as may be arranged. The Mississippi River excursion to New Orleans, mentioned on page 532 last week, and the ocean trip from Boston and New York, suggested in this issue, are attractive features that should be fully announced in the April 11 issue. We desire to receive information also of any other features not mentioned above, which will be of interest to some or all of the several thousands who are expected at New Orleans.

RATES TO NEW ORLEANS.

One Fare in Southwestern Association Territory—One and One-Third in Transcontinental.

The following letters explain themselves. The Southwestern Passenger Bureau includes railroads operating in Texas, Oklahoma and Indian Territories and the southern half of Missouri.

Southwestern Passenger Bureau.

ST. LOUIS, Jan. 27, 1903.

S. P. B. CIRCULAR LETTER, No. 5827. PROPOSITION ACCOUNT ANNUAL MEETING, AMERICAN MEDICAL ASSOCIATION, NEW ORLEANS, MAY 5-8, 1903, ADOPTED.

To Interested Lines:—Referring to S. P. B. Consultation Letter No. 843 submitting the following to apply from points in Texas, account annual meeting, American Medical Association, New Orleans, La., May 5-8, 1903:

RATE.—One regular, first-class fare for the round trip.

DATES OF SALE.—May 3 and 4, 1903.

LIMITS.—Tickets to bear continuous passage transit limit in each direction, with final limit of May 16, 1903.

EXTENSION.—If tickets are presented in person by original purchasers and fee of 50 cents paid to Special Agent on or before May 12, 1903, extension of final limit may be secured to and including May 30, 1903.

Special Agency will be conducted in the name of Mr. Joseph Richardson at Room 204, No. 204 Camp Street, New Orleans, and will be open between the hours of 8 a. m. and 8 p. m., tickets to be withdrawn only on the date on which they are to be used, and to be available for passage leaving New Orleans only on such date. The extension of limit to in no case exceed midnight of May 30, 1903.

The Special Agent will use paster bearing fac-simile signature of Joseph Richardson.

No objection having been recorded, the proposition is hereby declared adopted.

Respectfully, (Signed) C. M. PRATT, Chairman.

Transcontinental Passenger Association.

CHICAGO, Feb. 5, 1903.

MEETING OF AMERICAN MEDICAL ASSOCIATION, NEW ORLEANS, MAY 5-8, 1903.

Edmond Souchon, M.D., Chairman Committee on Transportation, New Orleans.

Dear Sir:—In reply to your favor of 2d instant I beg to say that the attendance from the states from which our lines sell, namely, California, Nevada, Washington and Oregon, will doubtless be so small as not to justify the making of any special reduced rate from those states.

Delegates may, however, avail themselves of the regular nine months' rate, which is in effect daily from Pacific Coast points to New Orleans, and which approximates two cents per mile in each direction, or about one fare and a third for the round trip.

Should it happen that your delegates apply at a station on Pacific Coast from which the nine months' rate is not in effect, which may be the case at very small, unimportant stations, the agent will cheerfully ascertain and advise them the nearest point to his station from which such rate does apply.

It is hoped that the foregoing will be satisfactory to you.

Respectfully, (Signed) J. CHARLTON, Chairman.

To New Orleans from Boston by Sea.

PLYMOUTH, MASS., Feb. 18, 1903.

To the Editor:—Will you kindly tell me: 1. What is the rate of fare from Boston to New Orleans to the annual meeting? 2. How do I get the reduced rate? 3. Is there any reduced rate by boat from Boston or New York to New Orleans? 4. Are there any reduced hotel rates? 5. Can I take my wife at same rate as myself? Yours truly, H. H. BURNS.

Answer.—Concerning all your questions read what is said on this page under the head of "New Orleans Number." 1. We are informed that the regular one-way rate is about $39, divided as follows: Boston to New York about $5, New York to

Washington $6.50, Washington to New Orleans, $27.50. The rate from Washington to the New Orleans meeting will be one fare for the round trip. East of Washington we are not informed as to the rates granted. As soon as we are, they will be announced in THE JOURNAL. If the same rate is given in the east as the southeast, it would make the round trip from Boston to New Orleans about $39. 2. Ask your ticket agent or the agent of the Boston and Albany R.R. in Boston. Consult THE JOURNAL, January 3, p. 46, and January 31, p. 325. 3. None to our knowledge. There should be. Some of the New York and Boston physicians may work this up. 4. None have been announced. 5. Yes.

Medical Organization.

Official Representative On Organization.

At the annual meeting of the Board of Trustees of the American Medical Association, held in Chicago, February 20-21, Dr. J. N. McCormack was asked by the board to devote his whole time to the work of organization as the representative in this work of the American Medical Association. Dr. McCormack has accepted the position and will immediately enter on his duties. It is expected that he will spend much of his time in the field and will be at the command of such state societies as may think his services can be made useful to them. It is suggested that officers of the various state societies and such committees as have this work of organization in charge, especially the councilors of the reorganized state societies, will put themselves in communication with him, with a view of co-operation in the work. Such co-operation will consist in both correspondence and personal visits on the part of Dr. McCormack, as may be desired. All correspondence in the future in regard to organization should be directed to Dr. J. N. McCormack, Bowling Green, Ky.

Effect of Organization.

A correspondent from Little Rock, Ark., sends us a copy of the new medical practice act just passed and signed by the governor, and says, "Although only in the incipiency of organization, we were able only by this means to get the bill through our legislature. Heretofore lack of organization made it easy for any organized effort to oppose and defeat us."

Defiance County (Ohio) Medical Society.

At a very full regular meeting in Defiance, February 11, this society adopted the constitution proposed by the committee of the American Medical Association.

Franklin County (Tenn.) Medical Society.

This society was organized at Winchester, February 19, with Dr. Flavel B. Sloan, Cowen, president; Dr. Thomas B. Anderton, Winchester, vice-president, and Dr. Garner S. Warren, Decherd, secretary.

Hamilton County (Iowa) Medical Society.

This society was organized February 7. Dr. Frank E. Whitley was elected president; Dr. Alanson M. Pond, vice-president; Dr. Carl W. Rummel, secretary, and Dr. Belle Conrad, treasurer, all of Webster City.

Lenawee County (Mich.) Medical Society.

On January 13, at Adrian, this society was reorganized with the assistance of Dr. Albert E. Bulson, councilor for the district. The constitution and by-laws suggested by the American Medical Association for county societies were adopted, and Dr. Clifford Kirkpatrick re-elected president and Dr. David L. Treat, secretary and treasurer, both of Adrian.

Licking County (Ohio) Medical Society.

The Licking County physicians met at Newark, February 12, and organized this society, electing Dr. Anderson T. Speer, Newark, president; Dr. Charles A. Foster, Newark, vice-president; Dr. George W. Garrison, Utica, treasurer; Dr. H. Burner Anderson, Newark, secretary, and Drs. B. H. Barnes, William H. Knauss and Cary F. Legge, all of Newark, censors. A committee on constitution and by-laws was also appointed.

Madison County (Ky.) Medical Society.

The physicians of Madison County met at Richmond, February 5, to consider the question of organization. After an address by Dr. Isaac A. Shirley, Winchester, councilor of the Tenth District, a permanent organization was effected, with Dr. James M. Poyntz, Richmond, president, and Dr. Murison Dunn, Richmond, secretary. The constitution and by-laws prepared by the American Medical Association were adopted.

Menominee County (Mich.) Medical Society.

Dr. Theodore A. Felch, Ishpeming, councilor for the Twelfth District, met with the physicians of the county at Menominee, January 14, explained the plan of reorganization suggested by the American Medical Association. and perfected the organization of the county society. Dr. Benjamin T. Phillips, Menominee, was elected president; Edward Sawbridge, Stephenson, vice-president; Dr. Peter J. Noer, Menominee, secretary and treasurer, and Drs. Walter R. Hicks, Eugene J. Grignon, and John F. Hicks, all of Menominee, directors.

Societies.

Pasadena (Cal.) Medical Society.—At the annual meeting, January 13, Dr. Charles D. Lockwood was elected president; Dr. Fitch E. Mattison, vice-president, and Dr. John E. Janes, secretary and treasurer.

Polk County (Neb.) Medical Society.—The physicians of Polk County recently met at Osceola and organized a county society, with Dr. Carrie L. Heald as president and Dr. L. Matt Shaw, secretary-treasurer, both of Osceola.

Merrick County (Neb.) Medical Society.—The physicians of the county met in Central City, January 13, and organized a county society auxiliary to the Nebraska State Medical Society. Dr. E. A. Benton, Central City, was elected president.

Marquette County (Mich.) Medical Society.—This society, at its annual meeting in Marquette, January 13, elected Dr. John H. Andrus, Ishpeming, president; Dr. Harry J. Hornbogen, Marquette, treasurer, and Dr. George D. Beach, Champion, secretary.

Van Buren County (Mich.) Medical Society.—The first annual meeting was held at Hartford, January 13. Dr. George D. Carnes, South Haven, was elected president; Dr. James Murphy, Bangor, vice-president, and Dr. Norris A. Williams, Bangor, secretary and treasurer.

Kaufman County (Texas) Medical Society.—At the annual meeting held in Kaufman, January 13, Dr. William H. Monday, Terrell, was elected president; Dr. Burrel J. Hubbard, Kaufman, vice-president; Dr. Willis J. Pollard, Kaufman, secretary, and Dr. Delana P. Hicks, Kaufman, treasurer.

Jackson County (Iowa) Medical Society.—At the annual meeting, held in Maquoketa, January 29, Dr. William C. Post, Welton, was elected president; Dr. George M. Johnson, Maquoketa, vice-president; Dr. J. O. Ristine, Iron Hills, secretary, and Dr. Willis A. Scott, Maquoketa, treasurer.

Rolla District (Mo.) Medical Society.—At the semi-annual meeting held in Rolla, Dec. 11, 1902, Dr. James P. Dunigan, Sullivan, was elected president; Dr. Stuart L. Baysinger, Rolla, vice-president; Dr. Samuel B. Rowe, Rolla, secretary, and Dr. Samuel H. Headlee, St. James, treasurer.

Hawaiian Territorial Medical Society.—At a recent meeting held in Honolulu the following officers were elected: Dr. H. C. Sloggett, president; Dr. W. L. Moore, vice-president, and Dr. Jonathan T. McDonald, secretary and treasurer, all of Honolulu. The annual meeting will be held at Honolulu, November 7.

Center County (Pa.) Medical Society.—At the annual meeting, February 10, the following officers were elected: President, Dr. Charles E. McGirk, Phillipsburg; vice-presidents, Drs. Edwin S. Dorworth, Bellefonte, and W. U. Irwin, Fleming; secretary, Dr. J. Y. Dale, Lemont; treasurer, Dr. Geo. F. Harris, Bellefonte.

Riverside County (Cal.) Medical Society.—At the quarterly meeting held in Riverside, January 13, Dr. Oscar J. Kendall was elected president; Dr. Charles W. Girdlestone, vice-president, and Dr. William W. Roblee, secretary and treasurer, all of Riverside. The society voted to affiliate with the Medical Society of the State of California.

Oklahoma Territorial Medical Association.—At the annual meeting held in Enid, January 15, the following officers

were elected: Dr. John A. Hatchett, El Reno, president; Drs. Orlando D. Taft, Garber, and Roger L. Hall, Medford, vice-presidents, and Dr. Mahlon A. Kelso, Enid, was, for the third time, re-elected secretary and treasurer.

Warren **County (Ky.) Medical Society.**—At the annual election held in Bowling Green, January 10, Dr. Thomas W. Stone, Bowling Green, was elected president; Dr. Eldon N. Hall, Woodburn, vice-president; Dr. Fred D. Cartwright, Bowling Green, secretary and treasurer, and Dr. J. N. McCormack, Bowling Green, delegate to the Kentucky State Medical Society.

Washington **County (R. I.) Medical Society.**—At the annual meeting in Westerly, January 8, the following officers were elected: Dr. C. Grant Savage, Westerly, president; Drs. Milton A. Duckworth, Carolina, and Edward J. Knerr, Hope Valley, vice-presidents; Dr. J. Howard Morgan, Westerly, secretary and treasurer, and Dr. Elisha P. Clarke, Hope Valley, Auditor.

Tri-County **(Cal.) Medical Society.**—This society, which includes the physicians of San Benito, Monterey and Santa Cruz counties, met in Watsonville, January 6, and elected the following officers: President, Dr. Frank H. Patterson, San Juan; vice-presidents, Drs. Spencer C. Rodgers, Watsonville, Henry C. Whiting, Santa Cruz, R. W. O'Bannon, Hollister, and Dorus Brumwell, King City, and Dr. Saxton T. Pope, Watsonville, secretary.

Green County **(Ohio) Medical Society.**—This society met, February 5, at Xenia. Drs. Horace Bonner, Dayton, Brooks F. Beebe, Cincinnati, and Dr. C. L. Bonifield, Cincinnati, presented convincing arguments why this society should affiliate with the state society and adopt the by-laws as suggested by their committee. The discussion of the question of new by-laws occupied so much time that their further discussion and adoption was laid over until the next meeting, March 5.

CINCINNATI ACADEMY OF MEDICINE.

Regular Meeting, held Feb. 16, 1903.

The President, Dr. A. B. Isham, in the Chair.

The evening was devoted to the consideration of "Medical Organization."

The Subject Stated.

DR. BROOKS F. BEEBE, chairman of council, Ohio State Medical Association, said in substance: Not a physician's name in the hall of fame; no just recognition of his worth by the public at large; intelligent, law-abiding, unselfish, as he is, conscientious in his work; progressive in his methods and his science; altruistic to a degree not equaled by others; still, medical men, with rare exceptions, do not occupy that place in the world of affairs that they should. Neither do they exert that influence of which they are capable, nor meet with the pecuniary reward that should be theirs. Where lies the fault? Chiefly in themselves. Only 30,000 out of a possible 120,000 physicians in the United States belong to medical societies. Three times as many out as in. Are we three times as bad as we should be? Why is it that physicians are so apathetic, indifferent, ignorant of the practical value of membership in medical societies, which fact is undoubtedly responsible for their unfortunate condition? While recognizing that knowledge is power, we sit down comparatively comfortable and contented, refusing to exert ourselves in the way that demands and secures recognition of our rights, of our worth and of our power. How may we change this order of things? Changed it must be, and already it is becoming different in some sections of the United States. A new era in medicine is unquestionably ours; and a new history is being written for us. Evolution is becoming revolution in medical affairs, at least in our own state and a few others, and it is to be hoped and expected that the work of progress that has recently been started will sweep the country from ocean to ocean and from the lakes to the very gulf.

While we are looking for the millenium, it can not be denied that the ideal in medicine is far from the real—nor, again, that the real may not be made to approach a little more closely the ideal. We may say that a physician's work or life may be viewed from three aspects: first, the scientific or purely professional; second, the social or companionable mingling together; and third, the business side, which looks after the material gain that is so necessary and utilitarian. When these three qualifications are properly combined, we have what may be considered an ideal medical character. The question, therefore, is, how may we obtain, even approximately, this desirable state? At the last meeting of our Ohio State Medical Association a new constitution and by-laws were unanimously adopted, and if Cincinnati and Hamilton County are to be represented, the Academy of Medicine of Cincinnati must become "a component society" of the state association, representing and including all the eligible physicians of the county.

Among other things that were done at this meeting, was the election of what is called a council, really a committee, composed of ten members of the association, selected from different parts of the state, whose duty it is to go about organizing and reorganizing medical societies in the different counties and looking after the interests of the profession in every possible manner. Greatness has been thrust on me, great work at least, in that I am one of the unfortunates selected to help perform this important duty. While I find it somewhat arduous, it is also very pleasant, and I find myself taking a very great interest because of the many good results being observed. My district is composed of nine counties in southwestern Ohio and I am taking much pleasure in assisting to form and increase the interest in these medical societies.

As the most of you know, an invitation from me as state councilor has been extended to you of Cincinnati to go to these outside county medical societies and render your quota of assistance. Of two hundred of these invitations sent among you, I have received favorable replies from about one hundred. This list will be sent to the secretaries of the various county societies of Ohio and to the nearby counties of Indiana and Kentucky; from it selections will be made by the secretaries and invitations will be sent to you to read papers or make addresses before these societies. Thus you will be able to assist in "organizing component societies and increasing the zeal of their members," as are the directions from the state association to its council. It has long since become a maxim that in union there is strength; that individual effort avails but little in any great movement. But how are we to accomplish this union of strength, this union for greatest influence, this union for greatest good to the medical profession and the people in general? A movement has already been begun and is spreading from county to county and from state to state. The great American Medical Association has already formulated a plan that is being adopted by the several state societies; and it is the furthering of this idea, together with the consideration of a revision of our own academy constitution that is the special subject for this evening. No one in medicine is too good, or too great, or too busy; too old or too young, or too little or too big, or too lazy to be allowed to escape duty in the future. On your program will be seen that a few only of the many features of organization are to be considered this evening. Any one of them could easily take an entire evening, but our object is to have some of the essentials lightly touched on, for a few minutes each, hoping that the opinions of the speakers may assist in awakening interest in society work and in obtaining promises from all present to lend a helping hand in organization.

Medical Organization.

DR. CHARLES A. L. REED called attention to the condition of medical organization in the United States at the time of his election to the presidency of the American Medical Association in 1900. Aside from the national body there were then local, county, district and state societies, the district societies in many instances embracing areas that varied in extent from several counties to several states. The membership in one of these bodies was frequently made up to an important degree of the members of some other organization within the same territorial limits. This circumstance was of no importance so long as the respective local bodies devoted themselves to social and scientific proceedings, but it became a matter of very great importance when it came to the question of pro rata representation for legislative purposes in both the various state societies and in the American Medical Association. Thus it not infrequently happened that the profession, in certain parts

of the country, duplicated its representation in the various delegate bodies, while it utterly failed to secure concert of action in important matters pending before various state legislatures, or for that matter before Congress.

This state of affairs had become peculiarly embarrassing to the American Medical Association. This body, organized on the delegate plan in 1847, as an unincorporated and purely voluntary organization, at first, and for several years received the delegates from practically every possible source, including the public services, medical societies, medical colleges, hospitals and lunatic asylums. This wide-open policy was soon found to be impracticable, and there was a gradual restriction of the right to send delegates, until, finally, no professional bodies except affiliated medical societies were granted the right of representation. There was but very little restriction, furthermore, in granting affiliation to medical societies. Many of the district societies, especially multi-state societies, had been very properly cut out, the only condition imposed on the remaining societies being that prescribed by the resolution of 1855. This resolution provided that no medical body should be recognized as an affiliated body that had not previously adopted the Code of Ethics of the American Medical Association. It subsequently appeared without further recorded action as Article IX of the old constitution, and was at the time of its adoption aimed at the Ohio State Medical Association.

Dr. Reed then discussed the code question very fully, mentioned the action taken in 1855, when a resolution was adopted, requiring all affiliated societies to adopt the code, and the rescinding of this action at St. Paul in 1901 by omitting this requirement in the new constitution and by-laws, etc.

The Importance of County Medical Societies.

DR. HORACE BONNER urged that, of medical societies, the most important is the county society. "Leaving out of account its importance as a unit in the scheme of organization, still it is the most important medical society in the land. It is accessible to the whole profession, even to the humblest member. All can share its advantages and it is, for the large majority, the only society. It is their post-graduate school and the only one they have, for comparatively few can attend the state societies or the American Medical Association." In county societies men "read and discuss papers, exchange experiences, comment on the lessons these teach, receive and give encouragement and have a short but enjoyable relaxation from the cares and worry of everyday life."

"These societies are good, indifferent or poor, just as the members make them, none is so good that it might not be made much better, none so poor that it is not very much better than no society. Their great weakness is their selfishness. They exist for their own members alone. They do not help their weak neighbors in adjoining counties and they have little or no public influence." The conditions in the state and the conditions in the national organization demand that medical men get together. "Individual effort is vain." "The whole plan is successful or falls to the ground just as we succeed in making the county society efficient." In it discussion is initiated. From it go the instructed delegates to the state association, and from the state association, likewise, the representatives are chosen to the American Medical Association.

The consummation of the desired organization will be complete and will be ideal only when the county societies "include 'every reputable and legally qualified physician in each county who does not practice or claim to practice sectarian medicine.'" "The county society is supreme." Membership in it establishes standing as a physician. "I don't care what the code of the American Medical Association may say, the code of the profession is going to be that 'a physician must be, in all things, a gentleman according to the standards of society and, therefore, one who is honest in his dealings with his patients and with his fellows.'"

"I am glad the word 'regular' does not occur in the constitution or by-laws of either the state or county. Hereafter we shall be 'physicians.'"

Medical Ethics.

DR. P. S. CONNOR stated that medical men may be classified under three heads: Those who need no code of ethics, those who will obey no code of ethics, and those who can be influenced toward the right by the code of ethics. The latter class constitutes no small number. The only objection to doing away with the code of ethics is that it opens the door to those who will confine themselves to one dogma or one line of medicine. There is not the slightest difficulty in the code being carried out as far as we are concerned. If there were no sectarian doctrines preached and no effort made to get business through the influence that we attach to sectarianism of one sort or another, we would need no code of ethics.

Medical Legislation.

DR. N. P. DANDRIDGE stated that there are three distinct sets of organizations which are becoming more and more powerful by means of association: namely, medical societies; second, medical colleges, which have existed longer than state societies and only recently have come into anything like a combined body; and third, the boards of state examiners. While these three bodies should, as far as possible, work together, yet in many lines they are antagonistic, and in order to do their work properly they must be antagonistic. Yet he thought that the tendency of state boards was to become yearly more and more arbitrary in their decisions, and that many facts of importance to the medical colleges and to the profession at large were kept secret for a longer time than was consistent with progress or good judgment. He also thought that the requirements of a candidate for a medical profession or a legal career or any other profession should be under the supervision of one board, as it is now in the state of New York. On the whole, he thought that attempts at medical legislation, at least as far as Ohio was concerned, had resulted in unmixed good, and no one, he thought, not even those connected with medical colleges, who were the greatest sufferers, would be willing to return to the days of chaos previous to medical registration and later of state board examination. As far as the personnel of the Ohio State Board was concerned, he thought that the selection had been most happy; certainly the members of the board who were not of the regular profession, so-called, had contributed in no small measure to the enactment and carrying out of many of the most important measures inaugurated by the board.

Social Needs of the Physician.

DR. E. W. MITCHELL thought that the physician should labor less hours and so have more time to mingle with his fellows and thus get out of the morbid rut into which his profession is apt to throw him. To do this the fees of the physician need to be radically increased, as he is now working in the large majority of cases for far less than he ought to receive. One of the chief inducements for Dr. Mitchell to attend the local medical society, he said—only less in importance than the professional aspect—was the social time that he was able to enjoy with his brother physicians. This was also true in attendance at the larger meetings held at a distance.

The Doctor in Politics.

DR. LOUIS SCHWAB stated that medical men organized in the past for mutual improvement alone—to exchange experiences with one another. The medical society in the past has been the admiration of the public because there has never been in it a breath of either religion or politics. But the physician is a citizen and even he can raise his voice for what he feels will be for the good of the people. He will always be granted a hearing and with a respectfulness that is given only to one of honest intention. Of late years many a medical man has devoted time to public affairs. When he is "chosen to public office he feels that he is not only responsible to the people, but that he is answerable to his craft for all his acts." Medical men can be found in Congress, in state offices, occasionally in the governor's chair and in prominent positions of many kinds without in the least detracting from or interfering with their reputation as physicians. Public service will demonstrate to many a physician the contracted life he was living and make him a more able man to practice his profession. "If the doctor in politics will practice the same self-denial that he does in his profession, public faith in him will be

as strong and tender as that which he is made to feel at every bedside which he visits."

Commercialism in Medicine.

DR. THAD. A. REAMY was very much inclined to defend the young physician who attended cases for a lower fee than his older competitor, though he saw no reason why a young physician should not charge the same as an older one for the same service, provided that the young physician had, by virtue of his previous training and experience, obtained a good and recognized standing in his profession. Dr. Reamy was emphatic in his condemnation of division of fees.

Fees, Bills, Collections and Dead Beats.

DR. MAGNUS A. TATE spoke from an experience of twenty-four years with fees and collections, twelve years in the practice of medicine and twelve as a boy and young man, collecting for his father. Many a physician who has means outside his practice fails altogether to grasp the problem of collections or to sympathize with the importance of this point to the physician as a class. "As a boy I became impressed with the following: Gratitude existed only in those who paid their bills and the one who penned the following had some experience:

> The danger o'er, the patient is delighted,
> God is forgotten and the doctor is slighted.

From his experience Dr. Tate has found the following points of value: "Charge reasonable fees, smaller to the poor, but never overcharge the rich." The physician needs the influence of the well-to-do. He must be fair and honest with them, and they will return it with interest. "Surgical operations and obstetric fees are entirely governed by the character of the case and the ability of the patient to pay." The sum charged by the general practitioner in obstetric cases is ludicrous.

It is the most poorly paid of all work in the practice of medicine. Dr. Tate can see no remedy for this evil at the present. He usually makes a charge for telephone advice. If he finds a crank who objects to paying for simple advice where no medicine is given, he adds medicine. Charges should be increased for night calls, contagious cases, Sunday calls and first visits. The contract doctors are governed by but one object, which is "self." Watch them through life and see if this diagnosis is not correct. They are making medical paupers out of thousands and doing irreparable harm. It is no wonder that insurance companies have inaugurated their liberal method of dealing with physicians on what they term business methods. Dr. Tate gave some examples of this abuse.

Members of the profession are seriously at fault in not telling the truth as to their revenue. "It is a sad commentary on the practice of medicine and truth to hear of the marvelous sum that Dr. So-and-So is making a year, and you know otherwise." This practice does two things: "1. It makes many a young man or woman enter the profession who is in no way fitted to enter, and 2, it keeps the impression alive that physicians are rich and do not need any money and consequently leads to great difficulty in the collection of our accounts."

Concerning collections, Dr. Tate urged that the medical profession shows a serious lack of business principle. Many a physician tells his patient that there is no hurry about payment. Many a physician has not the courage to ask what is his just dues. When a bill has waited six months, perhaps the patient is dead, perhaps he has removed and you can not find him, or perhaps he has gone to another physician because he owes you, which gives the impression that he was dissatisfied with you, perhaps he has forgotten just what you did for him and refuses to pay it in whole or in part. Dr. Tate's practice has been to send out bills the first of the month following services rendered, for the following reasons: 1. If there is any misunderstanding, memory is fresh and can straighten out the difficulty. 2. The patient's address is probably known. 3. The patient has not lost all the gratitude been in him while he was sick.

Dr. Tate urges the prosecution of dead beats, but he wishes to insist that there is a distinct line to be drawn between the dead beat and the poor man or woman who can not pay. "Charity is the sweetest morsel that one can taste; its flavor is delicious when it is given to the unfortunate and needy."

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Menstrual Pains in Virgins.

Dr. Touvenaint, in *Klin. Ther. Woch.*, recommends that hot applications be applied to the abdomen to relieve the pains and produce rest. If the pains are very violent an enema containing fifteen minims of tincture of opium or fifteen to forty-five grains (1.-3.) of chloral hydrate should be administered. The following combination may be used as a substitute for one of the foregoing:

℞.	Tinct. opii	gtt. x	65
	Pulv. camphoræ	gr. iii	20
	Yolk of 1 egg.		
	Aq. destil.	ʒiv	120

M. Sig.: As an enema; or:

℞.	Ext. cannabis ind.		
	Ext. belladonnæ, āā	gr. i	06
	Ol. theobrom. q. s.		

M. Fiat suppos. No. i. Sig.: Two or three daily.

Bronchitis Complicating Diseases of the Heart, Lungs and Kidneys.

The treatment of this form of bronchitis, according to I. N. Danforth, in Textbook of Applied Ther., should begin with the treatment of the condition that precedes and causes it. Elderly individuals, however, are improved by the administration of potassium iodid. The following formula is recommended by the author:

℞.	Pot. iodidi	ʒiiss	10
	Syr. picis liq.	ʒiv	15
	Syr. pulveris doveri	ʒi	30
	Syr. tolutani, q. s. ad	ʒiv	120

M. Sig.: One teaspoonful four times a day.

Stimulating expectorants are rarely needed in this form of bronchitis, but the author recommends small doses of aromatic balsams combined with a mild anodyne if the cough is troublesome, as follows:

℞.	Terebinthinæ canad.		
	Pulv. ipecac. et opii, āā	ʒi	4
	Pulv. acaciæ q. s.		

M. Ft. capsulæ No. xx. Sig.: One every three or four hours; or:

℞.	Copaibæ		
	Camph. monobrom., āā	ʒi	4
	Pulv. acaciæ q. s.		

M. Fiant cap. No. xx. Sig.: One three or four times a day; or:

℞.	Olei santali	ʒii	8
	Tinct. opii camph.	ʒi	30
	Sacchari albi		
	Acaciæ, āā, q. s.		
	Aq. anisi q. s. ad	ʒiv	120

M. Fiat emulsio. Sig.: One teaspoonful three or four times a day.

Technic of Hypodermoclysis.

Jos. Byrne, in *Merck's Archives*, recommends, in the administration of normal saline solution, that after preparing the patient, the fountain syringe be filled with the solution at a temperature of 102 F. to 105 F., to which a coarse but finely-pointed needle be attached and the syringe suspended six or eight feet above the patient. The physician, after thoroughly sterilizing his hands, should hold the needle and allow the flow to start before introducing it, in order to remove the air and cold fluid from the tube. With the other hand a fold of the skin in the axilla or over the abdomen should be grasped between the thumb and the finger and elevated similarly to the methods employed in giving an ordinary hypodermic injection. The needle should be pushed into the subcutaneous tissue, getting well beneath the skin, but not penetrating the muscular tissue beneath. The needle then can be freely moved about under the skin when the clamp may be loosened and the solution allowed to flow. Six to eight ounces will be all that

can be injected at one point; the needle may be removed and an injection made at another point. This may be repeated until the requisite amount is injected, which may range from one to three pints. If pain occurs during the operation gentle massage may be given to facilitate absorption. The addition of small quantities of glycerin or carbolic acid is said to relieve pain, yet the author does not advise their use. With thorough aseptic procedures no dangers should arise from this procedure.

Administration of Creosote Carbonate.

In order to overcome the difficulty encountered by some patients in taking creosote, J. J. Stoll of Chicago recommends that it be prescribed in the form of an emulsion, as follows:

℞.	Creosoti carb.	℥ii	8
	Ext. malti	℥iv	15
	Glycerini q. s. ad	℥iii	90

M. Fiat emulsio. Sig.: One teaspoonful after each meal.

Acute Pelvic Inflammation.

E. C. Hill, in *Med. Standard*, recommends in the treatment of acute pelvic inflammations, from whatever cause, that the patient be placed in a comfortable posture; sometimes elevating the foot of the bed gives great relief. The administration of morphin or opium in sufficient doses, which may be given per rectum; absorbent cotton saturated with equal parts of tincture of belladonna and glycerin applied hot and covered with a rubber cloth. Ten or fifteen grains of quinin should be given on the first days of the disease.

A small amount of cold water may be given frequently to relieve the thirst. If the lower bowel is loaded, employ a rectal injection composed of the following:

℞.	Magnes. sulph.	℥iii	90
	Glycerin		
	Aquæ, āā	℥ii	60

M. Sig.: As an enema, to be repeated as necessary.

Sodium phosphato, dram one-half (2.00) then should be given and repeated every three or four hours.

When the acute symptoms have subsided and there is no evidence of pus or serum, small blisters should be applied repeatedly to the iliac regions (one on each side) or paint the roof of the pelvis with tincture of iodin, or keep up counter irritation with the following solution:

℞.	Olei tiglii	℥i	4
	Etheris sulphurici	℥ii	8
	Tinct. iodi	℥iii	12

M. Sig.: Paint over the lower abdomen and repeat when the eruption disappears. Nourishing food, quinin, ferri iodid, potassium iodid, ferric chlorid and other tonics may be prescribed. Avoid exercise which excites pain. Promote absorption and lessen adhesions by pelvic massage.

Menthol for Local Application.

The following combination, containing menthol, is recommended by Kuehl in *West. Druggist*, for local application as a liniment:

℞.	Menthol	gr. xv	1
	Spts. chloroformi	℥i	4
	Spts. camphoræ	℥iiss	10
	Spts. saponis	℥i	30
	Olei gaultheriæ	℥ss	2

M. Sig.: Apply locally.

Putting Drops Into the Eye.

Sharp, according to an abstract in the *Ind. Med., Jour.*, gives the following suggestions and directions for dropping solutions into the eye: Never apply the drops directly to the cornea, nor should the dropper be brought down in front of the eye as the patient will close the eye reflexly. The dropper should be brought from below upward and to the outer canthus. Have the patient turn the eye upward and at the same time gently evert the lower lid, and while it is in that position place one or two drops on the conjunctiva of the everted lid. Not more than two drops should be put in at one time as the sac is not capable of handling more. The patient should then be directed to look down, at the same time holding the lower lid until the upper one comes in contact with it. In this way none of the solution will drop down on the cheek. Care should be taken that the dropper does not touch the eye anywhere as it may infect the eye or in turn become infected by the eye and will infect the medicine when replaced. It is well to boil the dropper before using it.

Chordee.

The following outline of treatment is recommended by Bjorkman in *Merck's Archives* in the treatment of chordee. Cold applications should be applied to the perineum or to the penis itself or hot sitz baths or leeches applied to the perineum. Keep the patient in bed on a light diet and keep the bowels well open. If abscess formation takes place a free external incision should be made in order to prevent urethral fistula.

The following internal treatment is recommended by the author:

℞.	Lupulini	gr. xv	1
	Camphoræ	gr. iiss	15

M. Ft. pil. No. x. Sig.: One pill every hour until the effects are produced; or:

℞.	Camph. monobrom	gr. xviii	1.20
	Ext. hyoscyami		
	Opii depurati, āā	gr. ix	.60
	Ext. lupulini q. s.		

M. Ft. pil. No. xv. Sig.: One pill four times a day; or:

℞.	Ext. opii	gr. i	.06
	Ext. hyoscyami	gr. ii	.12
	Lupulini	gr. ix	.60
	Ol. theobrom.		

M. Ft. suppos. No. vi. Sig.: One to be inserted into the rectum two or three times a day; or:

℞.	Chloralis hyd.		
	Potass. brom., āā	℥iss	6
	Syr. aurantii	℥vi	24
	Aq. destil. q. s. ad	℥iii	90

M. Sig.: Two tablespoonfuls at bedtime for the nervousness and insomnia.

As an ointment to be applied locally the following is recommended:

℞.	Ext. hyoscyami	gr. xv	1
	Lanolini	℥ii	8
	Vaselini	gr. xxx	2

M. Fiat unguentum. Sig.: To be applied locally.

Medicolegal.

Demonstration of Extent of Incapacity from Injuries.—In the personal injury case of Clark vs. the Brooklyn Heights Railroad Company, the party suing was permitted, for the purpose of showing the extent of his injuries, to attempt, in the presence of the jury, to drink a glass of water and to write his name. The Second Appellate Division of Supreme Court of New York holds that there was no error in permitting these demonstrations of the alleged inability, but that such evidence was admissible within the fair discretion of the trial court. It says that the injured person could certainly be allowed to testify that since the injury he had not been able to write without experiencing a tremor of the hand, or to drink a glass of water without similar inconvenience. No good reason is perceived why he may not be allowed to illustrate the extent of this incapacity as well as to state it in words. Deception, of course, is possible in such an illustration, but it is equally possible in the oral statement. In either case, the jury are to judge of the credibility of the witness.

Physician May Testify as to Competency of Nurse.—The First Appellate Division of the Supreme Court of New York holds, in Ward vs. St. Vincent's Hospital of the City of New York, that a physician who has had daily opportunity of observing the work done by a nurse—who has seen how she has done it—is qualified to say whether, in his opinion, she was a skilful and competent nurse. It says that the necessity for opinion evidence arises whenever it is impossible to state to the jury all of the facts which are essential to enable it to form an accurate judgment. Whether or not one be a skilful and competent nurse necessarily depends on many facts, all of which, from the very nature of things, it is impossible to lay before a jury, and for that reason a physi-

cian who has the personal charge of a patient, and who daily sees the manner in which a nurse performs her work over that patient, is competent to express an opinion. Furthermore, while it holds that it was for the jury to say whether, on the facts presented, one of the sisters of charity in charge of a charitable institution acted within the scope of her authority in making an alleged contract to furnish the services of a skilled and experienced nurse to the party suing while she was undergoing a surgical operation and recovering therefrom in such institution, the court holds that it was error to refuse an instruction that if the jury found, as a fact, that the party received no more than the personal assurance of the sister, then there was no contract on behalf of the institution.

What Constitutes Total and Permanent Disability.—In the case of Monahan vs. the Supreme Lodge of the Order of Columbian Knights one of the questions was the construction to be put on a by-law, which provided that whenever a member in good standing became "totally and permanently disabled, by reason of accident or disease, from following any occupation whatever," he might be paid a certain sum of money out of the funds of the order. The Supreme Court of Minnesota holds that, in order to recover under this section, it is not necessary that a member shall be disabled to the extent that he has not sufficient physical power to follow some easy occupation, and to perform some slight service, although under great disadvantage and while suffering great bodily pain. It says that, on the subject of proper construction, it will not undertake to improve on the apt language of the trial judge that "the words 'following any occupation' mean something more than the doing of one or more acts pertaining thereto. They involve the idea of continuity, and involve, also, the doing of all those things which are an essential part of the work or business in which a party is engaged." The language must have a practical and rational construction. It is difficult to conceive of a case where a man would be so completely disabled as to prevent his engaging in any kind of occupation. The party suing was shown to be substantially unable "to follow any occupation, because he was not able to do all of the essential acts necessary to be done in the prosecution of an occupation."

Marriage May Be Annulled for Venereal Disease.—In the case of Svenson vs. Svenson the Second Appellate Division of the Supreme Court of New York approaches as an entirely new question in that state the one of whether a marriage may be annulled for the fraudulent concealment by one of the contracting parties of the existence at the time of the marriage of a chronic and contagious venereal disease. It pronounces an unquestionably sound proposition, the general one that ill health, although concealed, or even although the condition has been misrepresented, will not of itself justify annulment. In the absence of binding and explicit authority, however, it says that it would be unwilling to assert a doctrine which would require a court of equity to hold that a man who finds a woman whom he has innocently married afflicted with venereal disease, and who, therefore, refuses to consummate the contract, may not procure a decree annuling the marriage because of the fraud involved in the existence of the condition and its concealment. Such a condition would seem to be amply sufficient to justify a finding that the afflicted party was physically incapable at the time of meeting the obligations of the relation. The reasoning which refuses relief in the case of ordinary ill health has no application to a disease which involves disgrace in the contraction, contagion in marital association, probably injury to offspring, and which, from its secret and shameful nature, denies to the innocent and unsuspecting the protection of foreknowledge. But in all cases of this character it is of the first importance that the application for judicial relief should be of absolute good faith and free from the suspicion of collusion.

Opinion of Attending Physician Evidence as to Injury.—The Supreme Court of Minnesota holds, in the personal injury case of Skelton vs. the St. Paul City Railway Company, that it is proper to allow a physician to give the result of information derived by him in the treatment of a patient, when being examined as an expert. In this case a physician, who was attending the party suing during her illness, was permitted to state, in describing her symptoms, that she had suffered from headaches. The record showed that such knowledge was derived from information received from the party during the course of professional treatment, which was obviously necessary to enable the medical attendant to prescribe for his patient. The same physician also testified as to the probable continuance of her malady, and expressed his opinion on the question whether her injured limb would ever regain its normal condition. This was after he had given a somewhat extended clinical history of her treatment, and was based on the information he had derived during the course of his professional attendance. The Supreme Court holds that this was proper. The opinions of a professional expert in such matters, it says, are not required to be based on hypothetical questions embodying a description of the physical condition of a person, but may be formed on knowledge of the injuries derived at the bedside, or from evidence in court. Quite like this is the decision of the Supreme Court of South Carolina in the personal injury case of Oliver vs. the Columbia, Newberry & Laurens Railroad Company. It says that the medical expert makes his diagnosis of an ailment from the symptoms discovered by his skill and from other symptoms gathered from the statements as to her present condition made to him by the patient while under examination. From these symptoms, thus discovered, he determines what "is the matter" with his patient, and the jury may have this conclusion expressed to them as the opinion of an expert witness. Besides this, the court holds that, in a personal injury case, testimony of the amount paid for medical attention is admissible for the purpose of throwing light on the extent of the injuries, just as testimony as to the length of time the patient was confined to her bed would be.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

February 14.

1 *Differential Diagnosis of Certain Diseases of the Liver. Charles G. Stockton.
2 *The Significance of the Presence of Streptococci in Market Milk. Raymond C. Reed and Archibald R. Ward.
3 *Tuberculosis of the Bronchial Glands; Tuberculin; Chest Pain. G. W. McCaskey.
4 *The Nervous Cardiac Symptoms Due to High Altitudes. F. Savary Pearce.
5 *Report of 250 Additional Cases in which Nitrous Oxid Was Used Alone or as Preliminary to Ether or Chloroform Anesthesia. David H. Galloway.
6 *Care of the Eyes of School Children. Linn Emerson.
7 Vital Statistics: A Plea for Actuarial Administration and Control of the Great Resources of Preventive Medicine. (Continued.) John S. Fulton.

1. **Liver Diseases.**—Stockton states that in this paper he does not attempt to treat the differential diagnosis thoroughly, but to point out certain distinctive characteristics in the familiar diseases of the liver, commencing with ordinary hepatic cirrhosis and so-called syphilitic cirrhosis. He finds this sometimes difficult, but remarks that in the syphilitic form the liver is large, frequently bosselated and of irregular contour and is sometimes accompanied by a friction rub. A history of syphilis and the therapeutic test are important points in the diagnosis. An apparent cure will occur in a large proportion of cases with syphilis. Sometimes the disease is too far advanced for such results and in others there may be a relapse. The diagnostic points between cholelithiasis and cancer of the liver are also discussed. He remarks that when cancer affects the liver it is usually secondary, and some information may be gained by locating the primary growth. There is a lack of history of characteristic hepatic colic unless cholelithiasis also exists. The presence of jaundice, with enlargement of the gall bladder, suggests cancer, while the history of gallstone and the gall bladder not palpable, indicates stone in the common duct. This is practically Courvoisier's law. Other points are also noted. Abscess of the liver may be confused with cholecystitis and angiocholitis. The history of the

case should be of assistance, and frequently when we suspect abscess puncture may be resorted to. He has seen no bad effects from puncture, though it may be difficult to find a small abscess. Lastly he considers sclerosis of the liver following chronic biliary obstruction and the so-called Hanot's cirrhosis of the liver, which he holds is a disease *sui generis*, usually seen in the young, without alcoholism, often acute in the beginning, though the disease is usually protracted. In the onset there is pain, often severe in the region of the liver, and probably a temporary elevation of temperature. The patient is found to be moderately jaundiced. The liver is very large, as is also the spleen, and pigmentation of the skin may be present over and beyond that occasioned by jaundice. The pain may be intermittent and the patient may often be for months exempt from all symptoms. Eventually, though perhaps not for five or ten years, jaundice appears, temperature rises and the patient dies from icterus gravis.

2. **Streptococci in Milk.**—The importance of streptococci in milk is insisted on by Reed and Ward, who find that infectious mammitis in the cow may have no specific symptoms. They remark, in conclusion, that the classification of streptococci is still in an unsettled state. The common prevalence of mammitis in the cow constitutes an important source of streptococci in market milk. The insidious onset of the disease is responsible for this being often innocently sold, and the common method of milk handling in stables deserves mention. The milk, after drawing, is generally poured in a common receptacle with other milk, and if the existence of udder inflammation is shown by curd-like masses on the sides of the strainer, ignorance or greed may prevent the proper rejection of the infected milk. The presence of streptococci must be regarded as a matter of danger. To understand the conditions under which these streptococci harbored in the healthy udder may become virulent will require a further study of the pathology of mammitis.

3. **Tuberculosis.**—McCaskey's article is largely on the diagnostic and therapeutic use of tuberculin. He believes in both. He also points out the diagnostic value of superficial chest pain, and gives schematic illustrations showing the reflex routes by which it may occur.

4. **Altitude in Heart Disease.**—Pearce discusses the effects of increase of altitude on the nervous cardiac symptoms. Ordinarily up to 5,000 feet or more no disturbance is caused in the normal heart. As we go up higher, however, there is a decided disturbance. In functional nervous disease he would advise against stimulating climates and altitudes over 2,000 feet as well as enervating climates at the lower levels. The matter of dryness of climate has something to do with the effect, and may be considered favorable.

5. **Nitrous Oxid Anesthesia.**—Galloway gives the results of 250 different cases where nitrous oxid was used either alone or as a preliminary to ether anesthesia. He considers that while there is no ideal anesthetic this comes as near to it as any. It does not terrify the patient as do ether or chloroform, produces no distressing symptoms and is so rapid that there is little time for the patient to become frightened. Less anesthetic is used, and, therefore, recovery takes place quicker, and the after-effects are correspondingly less.

6. **The Eyes of School Children.**—After noting the possible troubles from neglect of the condition of the eyes in school children, Emerson suggests examination to ascertain the following facts in each individual pupil:

1. Does the child fail to read a majority of the letters on the XX (20) line of the Snellen test types with either eye?
2. Do the eyes and head habitually grow weary and painful after study?
3. Are the lids or eyes habitually inflamed?
4. Is the child cross-eyed, or do the eyes diverge?

On an affirmative answer to any of these questions a letter of warning should be sent to the parents.

Boston Medical and Surgical Journal.

February 12.

8 *Irrigation in Acute Urethritis. Arthur L. Chute.
9 *A Report of a Case of Multiple Neuritis of Questionable Origin. Arthur W. Marsh. With Remarks by George C. Smith.
10 *Sub-dural Cervical Carcinoma, Secondary to Carcinoma of the Breast. E. W. Taylor and G. A. Waterman.
11 A Case of Pneumonia, with Relapse. A. Lawrence Mas[illegible].
12 *A Form of Pressure Anemia of the Uvula Which May Be Mistaken for Membrane. W. P. Coues.
13 *Antisepsis of the Clinical Thermometer. William H. Devine.

8. **Irrigation in Acute Urethritis.**—Chute advocates the use of irrigation in this condition, holding that while it fails at times and in occasional instances disappointing, it gives in acute urethritis the best individual and general results. It also offers the patient the greatest immediate comfort and safety, and as prompt if not more prompt recovery takes place than when other means are employed. Recovery is also more certain and the probability of latent complications diminished.

9. **Multiple Neuritis.**—Marsh details a case in a woman aged 52 and considers the cause to have been tubercular. The paper ends with some remarks by Dr. George C. Smith, who also analyzes the symptoms, finding the balance of argument in favor of the tubercular origin.

10. **Subdural Cervical Carcinoma.**—Taylor and Waterman report a case with microscopic examination of the tumor. The special points of importance to which they call attention are the growth of long standing in the immediate neighborhood, with slight involvement of the cord, limitation of the new growth essentially to the subdural space, extensive motor and sensory paralysis from involvement of the nerve-roots alone, and absence of pain attributable to invasion of sensory roots.

12. **Pressure Anemia of the Uvula.**—Coues calls attention to a condition which he has observed several times, consisting in a white spot seen on separating the tonsils from the uvula, which, on careful examination, is seen to be exactly at the point of impaction of tonsil and uvula; is not raised above the surface and does not bleed when touched. He thinks it occurs in streptococcus infection of the throat, when a non-diphtheritic membrane is perfectly possible.

13. **Antisepsis of the Clinical Thermometer.**—This subject is, according to Devine, too much neglected in text-books. The importance of cleaning the instrument is perhaps considered sufficiently evident. He thinks the best method to keep it free from germs is to keep it in an antiseptic solution when not in use and that no one should ever use a thermometer to take the temperature in the mouth or rectum without being absolutely certain of its being perfectly sterile. The best methods for eliminating transmission of disease, he thinks, are: 1. Separate instrument for each patient. 2. The hospital method of keeping the thermometer immersed in antiseptic solution, when not in use, and 3, keeping in the thermometer case a solution of bichlorid and alcohol (1-5000 to 1-2000).

Medical Record, New York.

February 14.

14 *A Résumé of Some Recent Researches Relating to Cytolysis and Immunity. T. Mitchell Prudden.
15 *The Problem of Epilepsy: Some Suggestions for Its Solution. L. Pierce Clark and Thomas P. Prout.
16 *The Radical Cure of Inguinal Hernia with Local Anesthesia. J. A. Bodine.

14. **Immunity.**—Prudden's paper is a review of theories and facts relating to cytolysis and immunity that does not lend itself to abstracting. He holds there is abundant ground for the belief that the protective agents invoked in natural and artificial immunization are simply those made use of by the body in its normal metabolism, exaggerated and diverted to different ends, in the face of emergencies, but involving no new physiologic capacities.

15. **Epilepsy.**—Clark and Prout consider epilepsy as due to a toxemia involving particularly the cervical cortex, and they summarize that "epilepsy is a disease resulting in diffuse and profound cortical degeneration; a highly complex sensory motor phenomenon, primarily sensory with a motor expression. The lesions are swollen nucleus, destruction of the nuclear membrane and intranuclear network, easy abstraction of the nucleolus by the knife, diffuse chromatolysis and other protoplasmic changes in the cell tending to its ultimate disappearance as a biologic unit and its replacement by a gliosis. The lesions are induced by a toxic or autotoxic agent operating on an organic anomaly of the cerebral cortex which forms the predisposition."

16—See abstract in THE JOURNAL, xxxix, p. 1204.

Medical News, New York.

February 14.

17 *A Study of a Bacillus Resembling the Bacillus of Shiga, from a Case of Fatal Diarrhea in a Child; with Remarks on the Recognition of Dysentery, Typhoid and Allied Bacilli. Philip Hanson Hiss, Jr., and F. F. Russell.
18 *Post-Diphtheritic Ocular Paralysis. P. N. K. Schwenk.
19 *Post-Diphtheritic Paralysis Affecting the General Nervous System. Luther C. Peter.
20 *Post-Diphtheritic Paralysis Affecting the Ear and Throat. Carle L. Felt.
21 *Laboratory Aids in the Diagnosis of Typhoid Fever. E. E. Smith.
22 *The Influence of Sodium Chlorid upon Gastric Secretion. Lyman B. Stookey.

17. **Bacillus Y.**—Hiss and Russell have isolated an organism from the feces of a case of fatal diarrhea in an infant which has a close resemblance to the bacillus of Shiga, but presents certain differences. It agglutinates in high dilutions with the serum from dysentery patients and animals immunized with Shiga bacilli. Formerly it could not have been differentiated by valid culture tests from the bacillus of Shiga, and, the mannite test being unknown, might easily have been confounded with Shiga's micro-organism unless its agglutinating reactions had been carefully studied in such a serum as that from typhoid immune animals, or from the normal beef, in neither of which the true Shiga bacillus, according to their tests, agglutinates in appreciable dilutions. It is also closely related to the *Bacillus typhosus*, both in agglutinating reactions and in the usually-observed cultural characters, but can be separated from it by the absence of motility and by its reactions in the maltose and dextrin media employed. It apparently differs from all hitherto described dysentery-like or pseudo-dysentery bacilli in its agglutination in high dilutions of dysentery serum, an agglutination in some instances more marked than that shown by the true Shiga bacillus. Its etiologic significance is not fully determined, but its close physiologic connection with the dysentery bacillus on one side and typhoid on the other, make it not improbable that further research will show it to be associated etiologically with certain diarrheic or dysenteric attacks. They recognize three groups of organisms, one represented by the true Shiga bacillus fermenting dextrose and some other monosaccharids, one by the organism Y, fermenting dextrose (monosaccharids) and the alcohol mannite, and finally a group represented by the more active fermenters—Flexner's Manila cultures and the culture "Baltimore"—organisms which split dextrose, mannite, maltose, dextrin and saccharose with the production of acid, as indicated by the reddening and coagulation of the serum-water sugar media. Their study, they hold, shows the inadvisability of relying on superficial characters or agglutination tests alone in the identification of an organism, or on the serum tests in the determination of the special character of a disease. They suggest that organisms differing from the true Shiga bacillus have been isolated and confounded with this organism.

18. **Post-Diphtheritic Ocular Paralysis.**—This condition is described by Schwenk, who holds that the generally active pupils, the frequency of paresis rather than paralysis and the bilateral character of the lesions can not be accounted for on any other theory than the peripheral one in these affections.

19. **Post-Diphtheritic Paralysis Affecting the General Nervous System.**—Peter considers this condition a toxemia which may affect the nerves generally or confine itself more or less to special nerves. Cardiac failure in diphtheria, he thinks, is possibly due to functional disorders of the vagi, and perhaps organic changes in the nerve structure. He believes in the use of antitoxin as one of the best measures, with rest, which is absolutely imperative, both during and after the attack. Massage and galvanism may help, and iron and strychnia be of some value.

20. **Post-Diphtheritic Paralysis of the Ear and Throat.**—Felt describes the symptoms of these conditions, which are generally curable. The use of antitoxin as now generally conceded prevents and does not cause diphtheritic paralysis. The ideal way is to use it early, with rest in bed and a simple diet; the latter with attention to the excretions, compose the fundamental principles of treatment. Strychnin should be administered throughout the course of the disease, while electricity, tonics, baths and massage are valuable adjuvants.

21. **Value of Laboratory Methods in Typhoid.**—Smith does not consider that the laboratory affords aid that is certain for all time and in all cases, but it does aid the clinician in the diagnosis of characteristic morbid products, identification of organisms and of the agglutinins. The diazo test he does not consider as valuable as some have claimed, but it is well worth observing. There are some inconveniences in isolating the organism from the blood or rose spots, but this method is worthy of more general attention than it receives. A positive Widal reaction is of great value; the embarrassment is in the negative one. In conclusion he calls attention to the value of the laboratory in establishing the diagnosis of other conditions where typhoid is suspected, such as the malarial parasites in the blood, the blood characteristics of pneumonia, the organism of tuberculosis and the condition of the blood cells in certain forms of intoxication.

22. **Sodium Chlorid.**—From experiments carried out on himself, Stookey concludes:

1. Excessive quantities of NaCl apparently exert an inhibitory influence on HCl secretion and thereby may impede gastric digestion. (This is in harmony with Miller's observations.)
2. The ingested NaCl is apparently not directly converted into HCl in the stomach to the extent—if at all—which one might theoretically expect, assuming the theories of Koeppe and Brasch to be tenable.

Philadelphia Medical Journal.

February 14.

23 *Immunization from Tuberculosis. Simon Flexner.
24 *Tropical Diseases. Charles F. Kieffer.
25 A Physician's Holiday in Vichy. James Tyson.
26 *Remarks on the Treatment of Pneumonia. Frederick P. Henry.
27 *The Roentgen Treatment of Malignant Disease. Charles L. Leonard.
28 Acute Urethritis. D. A. Sinclair.
29 *A Contribution to the Therapeutics of Children. N. G. Price.

23. **Immunization from Tuberculosis.**—The results obtained by Behring, Pearson and Gilliland in the prevention of bovine tuberculosis are first noticed by Flexner, who calls attention to the early work of Trudeau in this country as a pioneer in this particular therapeutic progress. He says it is a matter of congratulation and national pride that the first steps to the later important studies on tuberculosis just mentioned should have been supplied by American investigators, Theobald Smith and Trudeau.

24. **Tropical Diseases.**—Among the diseases described in this fourth lecture by Kieffer is epidemic gangrenous rectitis, which consists in a rapidly-spreading dysenteric process ending in perforation and gangrene and largely fatal, the causes of which are obscure. Hill diarrhea, an acute morning diarrhea with white stools and marked flatulency, is seen only in the acclimated colonists when they remove from the tropical districts to the hills. Lastly he speaks of sprue, which is a disease of the entire tropical world, and, as a rule, but a terminal condition of many devitalizing and depressing factors. Its cardinal symptoms are: 1, sore mouth; 2, flatulency, and 3, diarrhea. Its course is slow and chronic. It may shade off from chronic dysentery, and it is hard to say sometimes where dysentery ends and sprue begins. The treatment consists in an absolute milk diet, increasing the quantity until the patient will take and assimilate a gallon of milk a day. From this point on the milk diet must be continued for four to six weeks and the soft diet very gradually resumed until in the course of months a mixed diet may be again assimilated.

26. **Pneumonia.**—The great majority of cases of pneumonia in the young and robust will recover under any treatment that is not depressing, and no uniform plan can be formulated. After 50 or 60 years it becomes a more serious condition. The principal indications for treatment in pneumonia are: 1. Pain which, when it interferes with the pulmonary function, is injurious and demands relief. In most cases the external application of leeches will suffice; occasionally a small dose of morphin may be needed, but only in the early stages of the disease. If the temperature remains persistently at a high level, measures must be taken to reduce it. Henry finds sponging with tepid or cold water, or ice bags useful. Of drugs he has most confidence in quinin injected beneath the skin. Delirium and sleep-

lessness call for active interference. Alcoholic stimulants are imperatively demanded, he says, especially in cases where the patient has been accustomed to them. Of drugs, the bromids, especially the ammonium salt, paraldehyd, etc., are those which give the greatest benefit in insomnia. In cough and expectoration he finds good effects from oxysulphuret of antimony. It is of decided service in the early stages of pneumonia in doses of 1/32 of a grain every two hours dissolved in water or in equal parts of syrup of acacia and orange flower water. It is not irritating to the gastrointestinal tract nor does it seem to be depressing. The drugs he notices are digitalis, which is too much used as a routine practice, and is injurious when the arterial tension is increased, ammonia, which may be employed in connection with digitalis, and strychnin, which is of decided value. Oxygen inhalations may be palliative, but he has been rather disappointed in their use. Nitroglycerin is successful in relieving venous congestion, but the most valuable of all recent contributions is the use of quinin subcutaneously as suggested by Petzold. The dose for adults is 0.5 of quinin hydrochlorate in 17 parts of water. Henry has used it and found it decidedly valuable, generally prescribing the more soluble hydrochlorosulphate. Lastly, he speaks of hypodermoclysis, which he has found useful in several desperate cases of lobar pneumonia. Venesection may be occasionally useful. He has seen but few cases, however, in which it was indicated.

27. **X-Rays.**—Leonard finds that the alterative and destructive action produces retrograde changes. In large subcutaneous growths of low vitality, such a rapid destruction may take place as to flood the system with toxins and cause a fatal autointoxication and septicemia. The bad effects noted by some observers, such as a stimulation of the growth of the tumor, were probably due to this cause or to a real stimulation by too small a dosage. When the proper dosage shall be determined for the various manifestations this agent will probably prove one of the most potent ones. Until then operative treatment will have to precede it and the *x*-ray treatment deal with the residua that has escaped the knife. As a preliminary method it has no place at present, except where operation is contraindicated or more cosmetic results may be desired, and life is not threatened by delay, or when the disease is already inoperable. It must be employed with as great care as any other agent possessing such marked alterative properties.

29. **Heroin.**—Price has found heroin of special value in the diseases of children such as whooping cough, bronchitis, false croup, epilepsy, urinary incontinence, diarrhea, chorea and asthma. He gives cases to illustrate the antispasmodic, sedative and analgesic effects of the drug in children.

New York Medical Journal.

February 14.

30 Rudolf Virchow—An Appreciation. Charles A. L. Reed.
31 *Residual Urine. Henry E. Hale.
32 *The Etiological Significance of Heberden's Nodes. Edward M. Merrins.
33 *On the Local Effects of Aurantia and Its Treatment. W. Moser.
34 The Influence of the Mind Upon the Body. John B. Huber.

31. **Residual Urine.**—Hale suggests that in many cases the cause of residual urine may be enlargement of the middle lobe of the prostate behind the internal orifice of the urethra, and that the patient can be relieved if told to void urine twice daily in the knee-elbow posture. He has a patient nearly 82 years old who for the last thirteen months has found this practice of great service. After the bladder wall has lost its tonicity, this will be of no avail; it is only in the earlier phases that it is valuable.

32. **Heberden's Nodes.**—Merrins concludes that Heberden's nodes are simply evidences of structural degeneration depending on etiologic factors of wear and tear, rheumatic disease, mechanical, chemical, or toxic irritants in the system, and lowered vitality and disturbed innervation. Their common occurrence in women is due, he suggests, to the larger use of the smaller joints of the fingers in their daily work. These are likely to occur in any condition where these factors mentioned are present and are most prevalent in those chronic diseases where morbid bony changes form the principal feature of the disease, as in gout, and the osteoarthritic variety of rheumatoid disease. Their presence may help in the diagnosis, but they should never be regarded as conclusive evidence of any particular disease, nor are they of sufficient pathologic importance to constitute a separate form of rheumatoid disease when they appear as an isolated phenomenon.

33. **Aurantia.**—Aurantia is a coal tar dye used in the arts and in color photography. The unpleasant results occurring from handling it were formation of vesicles, swelling, intolerable itching, etc., very similar to those from ivy poisoning. He recommends the formula which he used in the latter condition, consisting of creolin, 2 drams; the fluid extract of grindeliæ, ½ ounce, water 5 ounces, applied on saturated cloths.

Cincinnati Lancet-Clinic.

February 14.

35 *Goiter and Its Treatment. P. M. Sater.
36 Tuberculosis-Sanitation. H. H. Spiers.
37 Surgery of the Prostate, Pancreas, Diaphragm and Spleen. (Continued.) B. Merrill Ricketts.

35. **Goiter and Its Treatment.**—The treatment recommended by Sater consists in first washing out the alimentary tract with calomel, with sodium bicarbonate and podophyllin; follow this with a hot salt water bath twice a week (in some cases only as a moral treatment); then begin by treatment with potassium iodid in small doses, usually about 2½ gr. freely diluted, after meals only. The next prescription contains 5 grains to each dose, while the third contains 7½, and for the fourth prescription, unless contraindicated, about 10 grains to each dose, continuing the latter for a few weeks until diminution in size of the gland appears; then is added one ounce of buchu, juniper and acetate of potassium, which later is increased to two ounces, thus making one-half the amount of the medicine buchu, juniper and acetate of potassium. This is continued until the cure is effected, which may be in from 30 to 90 days. An eruption like that of measles may occur, but will only necessitate reduction in the size of the dose. He insists on the importance of diuretics in the treatment, and says that he has had very satisfactory results from this method. This, of course, does not apply to the cystic form, of which he has had but one case.

Virginia Medical Semi-Monthly, Richmond.

January 23.

38 *Provision for the Criminal Insane. William F. Drewry.
39 Aid of the Microscope in Diagnosis of Diseases of the Skin. C. S. Venable.
40 *Remarks upon Some Indications for Wearing Glasses. John P. Davidson.
41 Some Practical Points About Diseases of the Eye and Ear. Albert A. Cannaday.
42 Some Cases of Recurrent Intestinal Obstruction Deceptive in Symptomatology and Unique in Causative Agency. William L. Robinson.

38. **The Criminal Insane.**—Drewry's article is a plea for special provisions for the criminal insane in Virginia either by a particular asylum, which is not advisable at the present time with the small number, or by the establishment in the prisons of a special department for their care.

40. **Use of Glasses.**—Davidson advises the use of glasses and thinks that the correction of nervous symptoms is an even more important indication for their use than the improvement of vision. The glass which accomplishes this is by no means the one that gives the best distant vision when first worn.

The Journal of Nervous and Mental Disease, New York.

February.

43 A Case of Colloid Disease of the Blood Vessels of the Spinal Cord. F. X. Dercum.
44 *Arteriosclerosis of the Spinal Cord. William Hirsch.
45 *The Microscopic Findings in Four Gasserian Ganglia Removed for Trigeminal Neuralgia. Sidney I. Schwab.

44. **Arteriosclerosis of the Spinal Cord.**—This condition is, Hirsch remarks, rarely diagnosed. He thinks we must attribute it to a special predisposition. It is not by any means confined to the aged; arteriosclerosis has been observed in infants only a few months old. He has seen sclerosis of the peripheral arteries and heart in a number of young men between 20 and 25. A sharply-defined clinical picture can not be given, as might be supposed. The characteristic feature, however, is the fact that the cells of the anterior half of the cord are much more apt to become affected than those of the posterior part, and he explains this by the peculiarities of the blood supply.

Motor and trophic symptoms are much more frequent than the sensory ones. The diagnosis may be difficult; the clinical symptoms may closely resemble those of tabes or paresis. The Argyll-Robertson pupil, however, is lacking. He reports cases which had a close resemblance to both tabes and paresis. He thinks that the cases which he reports indicate that there is a special form of arteriosclerosis located in the spinal cord.

45. **Neuralgia.**—Schwab reports a microscopic examination of four gasserian ganglia removed for neuralgic troubles, and gives his conclusions as follows:

1. In six ganglia removed for trigeminal neuralgia, anatomic changes were found of sufficient importance to bring them in relation with the symptoms of this disease. 2. These changes in the cells do not point to them as the primary cause of neuralgia, but they may be taken to represent the effects of abnormal cell activity, the origin of which we are not able to point out. 3. The gasserian ganglion is the anatomical seat of the chief symptom of trigeminal neuralgia, that is, the attacks of neuralgic pain.

Annals of Otology, Rhinology and Laryngology, St. Louis.

November, 1902.

46 Fibropapilloma of the Larynx, with Unusual Movements. Hanau W. Loeb.
47 Notes on the Development of the Pharynx After Birth. Thomas Dwight.
48 *The Pathology and Diagnosis of Otitis Media Insidiosa, i. e., Sclerosis; with Remarks on the Treatment. Henry J. Hartz.
49 *Notes on the Radical Mastoid Operation. Chevalier Jackson.
50 Simple Ulceration of the Vocal Cords, with Report of Cases. Wendell C. Phillips.
51 Treatment of Principal Defects of Speech. James M. Brown.
52 Removal of Metallic Foreign Bodies in the Esophagus by the Aid of X-Rays. S. E. Allen.
53 A Case of Exophthalmos Following Mastoiditis. Secord H. Large.
54 Report of a Case of Ethmoidal Frontal Sinus and Antral Empyema, with Operation on Antrum and Middle Turbinated Body, Followed by Death. George B. Rice.
55 *Mucin and Malignancy; Facts and Theories. Wm. Stuart-Low.
56 The Etiology and Diagnosis of Ethmoidal and Sphenoidal Suppurations. H. Lambert Lack.
57 The Aims and Limitations of Intranasal Surgical Procedures in the Treatment of Chronic Non-Suppurative Middle-Ear Disease. P. McBride.
58 The Aims and Limitations of Intranasal Surgical Procedures in the Treatment of Chronic Non-Suppurative Middle-Ear Disease. Urban Pritchard.
59 Remarks on Cholesteatoma of the Middle-Ear. Dundas Grant.
60 On the Relation between the Formation of the Auricle of the Anthropoid Monkeys, and Certain Congenital Malformations of the Human Auricle. F. Rohrer.
61 The Provision in London for the Education of the Deaf. Atwood Thorne.
62 The Treatment of Deafness of Middle-Ear Origin. Chalmers Watson.
63 Remarks on the Anatomy of the Temporal Bone, with Lantern Illustrations. R. C. Elsworth.
63½ Apparatus for Intratympanic Hot-Air Treatment of Certain Forms of Catarrh of Middle-Ear. Adolph Bronner.

48. **Otitis Media Insidiosa.**—Hartz's article may be summarized as follows: Sclerosis is fundamentally a hyperplasia of the bony capsule of the labyrinth, or really a transformation of cartilage into bone, accompanied by hyperostosis. It is initiated by constitutional diathesis, such as rheumatism, gout, syphilis and scrofula, and is favored by local disease in the pharynx and throat, etc. Its locality is usually in the labyrinth capsule near the stapes articulation with the oval window, including fixation of the ossicles. It may involve also the semi-circular canals and cochlea, producing symptoms of nervous deafness. The functional test, the subjective symptoms and family history allow an early diagnosis. The symptoms are hyperemia of promontory, heredity, Schwabach test showing prolonged bone conduction, Rinne negative in a varying degree, defective perception of one-half to one and one-half octaves of the low tones. Probably 10 per cent. of the middle-ear diseases are true sclerosis, designated as capsulitis labyrinthi, oto-sclerosis, spongification, dry middle-ear catarrh, and otitis media insidiosa. Hygienic and medicinal treatment are effective in the early stages of the disease. The more advanced stages may be improved by judicious treatment, with amelioration of the tinnitus.

49. **Mastoid Operation.**—Jackson advocates radical operation when, without mastoid symptoms, suppuration has continued three of four months after ossiculectomy followed by wick treatment. The only objection is that the hearing is occasionally affected and the discharge is not invariably cured. Failures are chiefly due to neglect to remove all diseased tissue, neglect of the after-treatment and the combination of a closed retro-auricular wound with a small meatal aperture. An adequate meatal aperture can only be secured in the Stacke, Körner, Pansa and similar operations by extending the flap incisions far out into the concha. Either method will leave a gaping meatus amounting to deformity. Any attempt to get along without this will result in troublesome after-treatment and occasional failure.

55. **Mucin and Malignancy.**—Stuart-Low holds that mucin has a bactericidal property which has been overlooked and that its free secretion is a protection against malignant disease. He finds that hypomyxia is a common antecedent of malignancy. It is hereditary. He reports cases of cancer treated with mucin with more of less benefit.

Archives of Ophthalmology, New Rochelle, N. Y.

January.

64 On Recurrent Formation of Vesicles on the Cornea and Keratalgias After Injuries of the Surface of the Cornea. W. Stood.
65 *On Sclerosis of the Choroid, with Secondary Degeneration of the Retina. George Levinsohn.
66 On a Mycotic Affection of the Cornea. B. Wicherkiewicz.
67 Review of Sixty-nine Cases of Rupture of the Choroid, Compiled from the Records of the New York Ophthalmic and Aural Institute. F. E. D'Oench.
68 A Case of Localized Tuberculosis at the Head of the Optic Nerve; Microscopic Examination. Arnold Knapp.
69 *A Method for the Prevention of Symblepharon After Burns of the Conjunctiva. E. F. Snydacker.

65. **Sclerosis of the Choroid.**—Levinsohn reports a case with changes of retinitis pigmentosa, pallor of disc, narrowing of the vessels and the irregular deposition of pigment in the retina, indicating atrophy of the retina, together with marked atrophy of the choroid extending nearly to the periphery and otherwise leaving only the macular region free. Near the disc the choroidal atrophy appears in the form of large white areas beneath the retinal vessels. Further, it is recognized by the lighter tint of the fundus and the clearness with which the choroidal vessels are seen, but the changes in the vessels are the characteristic symptoms and the primary lesion.

69. **Symblepharon.**—Snydacker describes the method of treatment employed by him for symblepharon, which consisted in sandwiching the lower lid between two lead splints cut to fit and sutured together through the lid and having them drawn down by a bandage passing under the chin. This completely separates the wounded areas and keeps them stretched apart under constant tension while healing is taking place.

International Journal of Surgery, New York.

February.

70 *Measuring, Fitting and Putting on the Corset for Movable Kidney or Glenard's Disease. A. Ernest Gallant.
71 Nose and Throat Work for the General Practitioner. George L. Richards.
72 *What Is the Significance of Cervical Lacerations? Chauncey D. Palmer.
73 The Surgical Assistant—Operations on the Head. Walter M. Brickner.
74 *Bunions and Their Treatment. Robert T. Morris.
75 The Technics of Amputations. Robert H. Cowan.

70. **Glenard's Disease.**—From a careful consideration of others' work and his now wide experience, Gallant concludes that the symptom-complex, called movable kidney, Glenard's disease, etc., can not be accounted for on the ground of simple kidney mobility or prolapse. The nephroptosis is nearly always associated with ptosis of other abdominal and pelvic viscera, subnormal nutrition and nervous instability, and the treatment to be successful must be directed toward the replacement and support of the prolapsed organ, the correction of functional derangement, and the improvement of general nutrition. Nephropexy alone will fail and is indicated only when operating on a true "surgical kidney." The remedy he suggests is a corset, measured, fitted and put on while the woman is lying in the dorsal position with pelvis raised, and worn continuously, when not lying down, to elevate and support the viscera and immobilize the wandering kidney. It affords maximum pressure over the suprapubic area, minimum compression above the waist-line, and ample space for heart, lungs and intestines; gives a refreshing sense of comfort as soon as put on; Dietl's crises cease, and as time goes by gastrointestinal action improves; anemia is dissipated and a well-marked increase in body weight ensues. Such a corset has been found of great use to women with pendulous abdomens or adiposis, to replace the abdominal binder after childbed and celiotomy, and for

young girls when first they adopt skirts suspended from the waist. The wearing of such a corset is prophylactic against the production of Glenard's disease.

72. **Cervical Lacerations.**—The importance of cervical lacerations is insisted on by Palmer, who remarks as to their tendency to favor malignant growths and suggests the importance of their early recognition and correction.

74. **Bunions.**—A very simple operation will relieve most cases of bunions according to Morris:

A longitudinal incision, not more than half or three-quarters of an inch in length, along the line of the inner surface of the extensor tendons, exposes the site of the hyperostosis, and a sharp chisel separates the button of the bone readily from the head of the metatarsal bone. The open bursa can then be trimmed out with a pair of scissors without difficulty, and when the wound is sutured and the skin pressed against the surface of bone from which the button was removed, it becomes quickly adherent and the bunion is at an end. This treatment will suffice to give comfort in most cases and no further operative work is necessary, but if the patient wishes to have the phalanges of the great toe placed in normal line with the metatarsal bone it is necessary to divide the external ligament of the metatarso-phalangeal articulation. This can be done subcutaneously, but in doing so we can not avoid cutting a pretty large branch of the dorsalis pedis artery, as a rule.

Hemorrhage from this cut artery we can usually disregard if a small, round, gauze pad is strapped firmly down on the dorsum of the foot at this point beneath a light splint. We must inform the patient, however, that sometimes it becomes necessary to enlarge the incision and ligate the artery. I have not been obliged to do this as yet, but have had to exercise a certain amount of skill in making proper application of pressure.

After the simple operation of removing the button of bone, and the thick bursa, very little further treatment is required, and the patient may be allowed to walk in from ten to twelve days.

Where it has been thought desirable to correct the hallux valgus by division of the external lateral ligament, we must apply a splint to be worn inside the shoe to hold the phalanges in place for several months. A very good one is made by hammering a piece of sheet copper into the shape of the sole of the foot, and turning up a flange which corresponds to the external surface of the great toe. A special stocking is then made with a separate compartment for the great toe, so that the flange from the splint can be interposed between the great toe and the next one.

New York State Journal of Medicine, New York.

February.

76 *What Advice Should Be Given to a Woman Suffering from Fibroid Tumor of the Uterus? J. Riddle Goffe.
77 *Urethral Stricture—Remarks Introductory to a Discussion on Its Modern Treatment. J. W. S. Gouley.
78 *External Perineal Urethrotomy. Parker Syms.
79 *Internal Urethrotomy. Lucius W. Hotchkiss.
80 The Surgical Diseases of the Kidney from the Standpoint of the Country Physician. George A. Leitner.
81 *Facts, Fancies and Fallacies in the Treatment of Consumption. M. J. Brooks.

76.—This article has appeared elsewhere. See THE JOURNAL, Feb. 21, p. 539, abstract 19.

77. **Urethral Stricture.**—Gouley's article reviews the whole subject of stricture and points out the treatment suitable for each variety.

78. **External Perineal Urethrotomy.**—Syms describes the operation and considers it a safe one and the operation of choice in urethral rupture, in intractable stricture, impassable stricture with urinary retention or false passages or urinary extravasation, and in those with an abscess or fistula. He thinks it might be the treatment of choice in cases of deep-seated strictures, even though they might be amenable to gradual dilatation, since the latter method never results in permanent cure, but must be repeated or continued at longer or shorter intervals. In emergency cases of sudden complete retention due to prostatic obstruction, where unwise instrumentation has been attempted, resulting in laceration of the urethra, etc., perineal urethrotomy is the safest and best procedure.

79. **Internal Urethrotomy.**—The objections to urethrotomy are reviewed by Hotchkiss, who holds that a well-planned and well-executed urethrotomy is often followed by permanent results as regards reconstruction, and that many cases that are ordinarily treated by external urethrotomy may be well and safely treated by the method of dilating internal urethrotomy combined with perineal cystotomy for drainage.

81. **Tuberculosis.**—The favorable conditions for the treatment of consumption are not to be found, according to Brooks, in climate, altitude, etc., or in the wards of general hospitals. What is wanted is a space of open country with a number of properly-equipped and supervised sanatoria in the neighborhood of our larger cities, and seaside institutions for tuberculous children.

Medical Bulletin of the Washington University, St. Louis.

January.

82 *On the Value to the Surgeon of Some Modern Methods of Renal Diagnosis. J. P. Bryson.
83 *Prognosis in Neurasthenia. J. M. Bradley.
84 *The Removal of the Malleus and Incus Under Local Anesthesia in Chronic Suppurative Troubles of the Middle Ear. Seiden Spencer.

82. **Renal Diagnosis in Surgery.**—While blood cryoscopy has some inconveniences, urinocryoscopy, in connection with the separation of the urines, Bryson says, is of distinct value and especially in connection with hematocryoscopy. The phloridzin test is a very delicate and valuable one for the investigation of the functional capacity of the kidney. It is not difficult and should precede operation on the kidney whenever possible. Until further observations, the freezing and phloridzin tests should be made separately. The polyuria often caused by phloridzin may interfere with the freezing-point of urine from the healthy kidney. These tests should be regarded as aids only to diagnosis and as in no way taking the place of well-established methods.

83. **Prognosis in Neurasthenia.**—Bradley finds that neurasthénias due to external toxins are usually rapidly relieved by removal of the cause. Cases from overwork recover by rest provided the damage done is not too great. Those cases following childbirth or lactation without sepsis are favorable; with sepsis not so much so. Cases following infectious diseases and septic states are not so satisfactory; recovery is slower and likely to be interrupted and relapses are more likely. Natural sexual excesses do not ordinarily cause cases of neurasthenia of bad prognosis, unless they occur in persons approaching the age limit who have all their life been excessive. Neurasthenia from unnatural practices depends entirely on the mental attitude of the patient. If they can control themselves and change their habits, prognosis is good, otherwise bad. Neurasthenia from worry is rebellious to treatment, and is usually of long standing before coming to the physician. Improvement is slow, interrupted and subject to relapses. Neurasthenia from disordered metabolism has a wide range of possibilities. The prognosis regarding permanent cure is not so good. He calls attention to the effect of coffee in depressing the reflexes and finds that in cases of neurasthenia, other conditions being equal, if the reflexes are decreased, recovery is more rapid and permanent than when they are increased. This may possibly be due to coffee as a cause and its stoppage helping the case.

84. **Ossiculectomy.**—Spencer performs ossiculectomy under local anesthesia, first using adrenalin to render the parts bloodless and then applying a local anesthetic on cotton.

Memphis Medical Monthly.

February.

85 *The Nature and Treatment of Dyspepsia in Consumptives. Paul Paquin.
86 *The Treatment of Acute and Chronic Dysentery. M. Goltman.
87 Kidney Complications in Estivo-autumnal Fever. Ira B. Bartle.
88 A Case of Smallpox, with Sequelæ. W. T. Braun.

85. **Dyspepsia in Consumptives.**—The apparently pretubercular dyspepsia is described by Paquin. He does not think that it absolutely precedes tuberculosis, and insists on the importance of strength rather than gain in weight as a favorable symptom in the prognosis. He thinks we should look on persistent indigestion with the greatest solicitude, and watch the victims closely, so as to place them, if possible, in the condition to defeat the greatest plague of man—consumption.

86. **Dysentery.**—Goltman has treated dysentery, as he thinks, of the amebic variety, by local treatment and divulsion of the rectum. His conclusions are:

1. The treatment of dysentery, acute or chronic, by topical application is most rational. 2. Topical applications are useless unless large volumes of fluid are used to distend the bowel. 3. Topical applications, as usually made, are very painful in all cases, particularly in those that are acute. 4. Topical applications, to be thorough and far-reaching, are unbearable to the patient, on account of the extreme pain they cause. 5. Anal divulsion is a prime factor in facilitating the work of flushing the colon. Resistance to the escape of fluid is removed, and it markedly relieves the tenesmus. 6. Anal divulsion, cauterization of ulcers through the proctoscope, passage of a tube high up into the sigmoid through this instrument and thorough distension and flushing of the gut, are absolutely impossible without the aid of anesthesia. 7. Anesthesia rather relieved than produced shock in my cases. These patients

seem to take as kindly to chloroform as women in childbirth. 8. In my judgment, one is more likely to overdistend and perforate the gut without anesthesia than with it.

Kansas City Medical Index-Lancet.

February.

89 The Nestors of the Profession. W. J. Moore.
90 *Carcinoma Uteri. H. C. Crowell.
91 The Life Insurance Examiner. O. L. Peak.

90.—See abstract in THE JOURNAL of January 10, p. 117.

Denver Medical Times.

February.

92 Monoplegia—Disturbances of Sensibility in Cortical Paralysis. Sol G. Kahn.
93 Résumé of X-Ray Therapeutics. G. H. Stover.
94 Morphinism. John Inglis.
95 Arteriosclerosis. E. C. Hill.

Louisville Monthly Journal of Medicine and Surgery.

February.

96 The Pathology, Diagnosis and Treatment of the Earlier Manifestations of Tuberculosis Involving the Hip-Joint. F. C. Wilson.
97 Suppurative Diseases of the Accessory Nasal Sinuses and Their Treatment. J. Morrison Ray.
98 The Treatment of Tuberculosis—A Word for Climate. Arch Dixon, Jr.
99 Treatment of Typhoid Fever. E. Kelley.
100 Pneumonia. C. G. Stephenson.
101 The Cure of Boils. A. K. Bond.

Medical Examiner and Practitioner, New York.

January

102 The Longevity and Mortality of Jews. Frederick L. Hoffman.
103 Race in Relation to Mortality, Longevity and Life Insurance. John M. French.
104 What Shall We Teach the Public in Regard to Tuberculosis? George W. Webster.

Buffalo Medical Journal.

January.

105 Salient Points in the Treatment of Catarrhal Deafness. Sargent F. Snow.
106 Unusual Causes of Lead Poisoning, with Report of a Case. John Zimmer.
107 To What Extent May the Female Genitals be Saved from Mutilation? J. Henry Dowd.
108 Immediate Repair of the Soft Parts Following Labor. Charles E. Congdon.
109 The Utilization of the Sac in the Radical Operation for Femoral Hernia. A. L. Hall.
110 Does the Public Telephone Transmit Disease? William G. Bissell.

February.

111 Progress, Liberty, Unity. Henry R. Hopkins.
112 Henry de Mondeville, the Man and His Writings. (To be Concluded.) Charles G. Cumston.
113 Uterine Fibroids or Myomata. J. F. Myers.
114 Remarks on Electricity in Medicine and Surgery. Joseph C. Clark.
115 Report of a Case of Labor with Double Uterus and Vagina. Henry T. Williams.

Medical Mirror, St. Louis.

January.

116 Filth Diseases. George M. Sternberg.
117 The Cure of Hernia. Henry O. Marcy.
118 Preparation of Operating Room in a Private House. Nicholas Senn.
119 Abdominal Section Following So-called "Vaginal Puncture," with Report of Cases. John Y. Brown.
120 American Surgery in the British Colonies. G. Frank Lydston.
121 About Our Bills. Robert T. Morris.

Texas Medical Journal, Austin.

February.

122 Report of a Case of Disarticulation of the Hip for Sarcoma of the Femur, with Remarks upon the Diagnosis and Prognosis in Sarcoma of the Femur. A. E. Halstead.
123 Report of a Case of Double Glioma Treated with X-Ray. H. L. Hilgartner.
124 Address, Kaufman County Medical Society. W. H. Monday.
125 Ligation of the Dorsal Vein of the Penis as a Cure for Atonic Impotence. J. S. Wooten.

Medical Herald, St. Joseph, Mo.

February.

126 The Diagnostic Utility of Blood Examinations. F. Gillmor.
127 Problems in Microscopy. Herbert Lee.
128 Dysmenorrhea. W. O. Henry.
129 Vesicular Mole. Mary Strong.

American Medical Compend, Toledo, Ohio.

February.

130 The X-Ray Treatment in Cancer and Intractable Skin Diseases—A Study and Review. John A. Wright.
131 Two Cases of Obstruction of the Bowels Caused by Meckel's Diverticulum. Hal C. Wyman.
132 Lateral Curvature of the Spine. Daniel Laferte.
133 Specialists. J. A. Kimmell.
134 Climatology. W. W. Hill.
135 Historical Sketch of Smallpox. J. T. Woods.
136 The Technic of Vaccination. G. A. Stanton.
137 On Trauma and Lesions of the Pelvic Structures. T. H. Manley.

Atlanta Journal-Record of Medicine.

February.

138 Parotitis Following Typhoid Fever. E. Bates Block.
139 Typhoid Fever; Its Antiseptic Treatment in 25 Consecutive Cases. James Billingslea.

Alabama Medical Journal, Birmingham.

January.

140 Tuberculosis in the Negro. Seale Harris.
141 Suggestions for the Treatment of Hip Disease in Children. William T. Berry.
142 The X-Rays as a Therapeutic Agent. A. V. L. Brokaw.

February.

143 Varieties of Calyces. Byron Robinson.
144 The Treatment of Opium Poisoning. W. S. Britt.
145 Stone in the Kidneys: With Report of Two Cases. Mack Rogers.
146 Acute Enterocolitis. W. S. Rountree.
147 Report of Cancer Treated by X-Rays. J. D. Gibson.
148 Tetanus, with Report of Case. Frank B. Reagor.
149 So-called Membranous Croup. C. H. Peete.

Carolina Medical Journal, Charlotte, N. C.

January.

150 What Shall be Done in Non-Penetrating Wounds of the Abdomen, with Probable Visceral Lesions? R. L. Payne.
151 Some Phases of Albuminuria. William S. Gordon.
152 Etiology and Treatment of Acne Vulgaris. F. H. Beadles.
153 The Organization of the Medical Profession. George W. Pressly.

New England Medical Monthly, Danbury, Conn.

February.

154 Remarks on Oviducal Gestation. Byron Robinson.
155 Coughs and Their Treatment. Alex DeSoto.
156 Ill-Defined Symptoms of Uricacidemia Treated by Thialion. J. H. Tyndale.
157 Collaboration of Reports of Various Observers on the Etiology of Yellow Fever. Shown in Mosquitoes. J. McFadden Gaston.
158 Immunity. (Continued.) C. P. Robbins.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

January 31.

1 *The Etiology of Acute Rheumatism and Allied Conditions. R. M. Beatson and E. W. Ainley Walker.
2 *Diseases in Advanced Life. George H. Keyworth.
3 *Preliminary Note on the Parasites of Smallpox and Chickenpox. R. S. Thomson and John Brownlee.
4 *An Improved Method of Testing for Lead in Urine. F. H. Jacob and S. R. Trotman.
5 The Influence of Some Modern Drugs on Metabolism in Gout. William Bain.
6 On a Case Illustrating the Value of Physiologic Rest. W. M. Willis.
7 Case of Puerperal Hyperpyrexia of Malarial Origin. Thomas W. Clay.
8 Researches on Hibbertia Solubilis. John Reid.
9 *Human and Bovine Tuberculosis. Nathan Raw.
10 Soil Pollution and Disease in Camps. R. Caldwell.
11 The Supply of Pure Water to Troops in the Field. James Ferguson Lees.

February 7.

12 *Astereognosis in Tabes Dorsalis. George E. Rennie.
13 *Suture of the Brachial Plexus in Birth Paralysis of the Upper Extremity. Robert Kennedy.
14 Spinal Hydatid Cysts Causing Severe "Compression Myelitis." P. Tytler and R. T. Williamson.
15 Case of Hydatid of the Pleura. W. B. Ransom and W. M. Willis.
16 *The Effects of Vaccinating During a Menstrual Period. E. Rumley Dawson.
17 Preliminary Account of the Investigations of the Liverpool Expedition to Senegambia (1902). J. Everett Dutton and J. H. Todd.
18 A Note on the Treatment of Puerperal Insanity. Ernest W. White.
19 *On the Bilberry (Vaccinium myrtillus). Max M. Bernstein.
20 Fatal Case of Pemphigus Acutus Malignus. W. J. Cale.

1. **Rheumatism.**—Beatson and Walker have studied the bacteriology of rheumatism and come to the conclusion that a particular micro-organism is constantly associated with acute rheumatic lesions; that this organism can be cultivated on artificial media, and that on inoculation into animals it gives rise to the characteristic lesions of the disease and can again be isolated from them. Culturally this organism resembles the streptococcus, but it appears different from the streptococcus in its reaction with the Marmorek test. The bacterial specificity of rheumatism, they conclude, is, therefore, satisfactorily established. Its toxic specificity is yet to be investigated and is at present under examination.

2. **Old Age.**—Keyworth points out the disadvantages of old age in disease. He holds that attention to diet is necessary; old people who are healthy and live well are generally spare

and eat but little. A man must reduce his intake after fifty years. Cold weather is especially severe on elderly people, and he calls attention to the danger of high tension pulse in renal disease and the necessity in such cases to keep the bowels free, avoid meat and malt liquors. The reactions and sympathies between different organs which aid in the diagnosis are much less marked in advanced age than before, and pneumonia and empyema may be latent as regards symptoms. Any general ill-defined illness in an old person should suggest pneumonia. Cancer rarely appears first in old age, and when present is often slow in its progress and may disappear. The power of repair of tissues and recovery from injuries is often good. Diuretics as well as laxatives are valuable, as the skin is less active. Quinin is valuable and he recommends wine and exercise, especially walking.

3. **Smallpox and Chicken-pox.**—The following are the tentative conclusions reached by Thomson and Brownlee in their research for the past five years on the parasites of varicella and smallpox: There are present in the blood of persons with hemorrhagic smallpox small spherical bodies highly refractive, simulating in appearance small fat globules. They do not stain, however, with osmic acid, nor with the usual basic or acid stains. In hemorrhagic cases they were found in considerable numbers from the third or fourth day until death. Similar bodies in lesser numbers were found in cases of confluent smallpox from the third or fourth day until the end of the first week or later and abundantly in the prodromal stages of both smallpox and chicken-pox. These were unlike any ordinary histologic or pathologic constituents of the blood and much larger than hemoconia (size 1/5 microns). 2. In skin sections containing hemorrhages similar bodies are found among the extravasated blood corpuscles, but these stain very faintly with both basic and acid stains. 3. In the lymph spaces and in some of the smaller blood vessels of the skin there are often groups of small spherical bodies, considerably larger than staphylococci and staining with considerable difficulty. Their staining capacity, however, varies considerably. 4. In the lymph spaces of the skin, especially those immediately adjacent to the basement membrane of the epithelium, there are found considerable numbers of small spherical bodies, more closely grouped in certain situations. They are larger than streptococci and stain with comparative ease with most basic dyes. These commonly assume a peculiar purplish tint, different from the green of the cocci and nuclei. 5. In skin sections, if taken where the eruption is moderately advanced, bodies such as are described are present and can be recognized in large numbers in the epithelial layers. They are difficult to recognize among the disintegrating nuclei. 6. In smears from the vesicles similar bodies are found and are often present in small numbers in the blood from patients suffering from hemorrhagic smallpox. 7. In smears taken from the pocks in later stages of eruption, within certain of the cells small clear bodies may be found staining very faintly with the ordinary reagents. In smears of gradually increasing age, these bodies are seen to increase in size until they occupy the larger part of the cell, and at a still later decade they are found apparently in a free state. They stain very faintly and show no appearance of a nucleus. 8. The absence of pyogenic micro-organisms, both from smears and skin sections, is very striking in the hemorrhagic cases and during the early stage of rash. 9. Towards the end of the vesicular and in the pustular stage pyogenic organisms are frequently found in sections, smears and cultures. 10. Appearances similar to those described in smears, vesicles and pustules of the skin in variola occur also in varicella. In severe hemorrhagic and confluent cases, pyogenic organisms are very commonly found in the blood, but these have been regarded as due to accidental contamination and in hemorrhagic cases probably from the lungs, in confluent cases by absorption from the skin and, possibly, the lungs also.

4. **Urinary Test for Lead.**—Jacob and Trotman describe an electrolytic test which they consider one of the most delicate. It consists in evaporating about 250 c.c. of urine in a porcelain dish with a few c.c. of lead-free sulphuric acid placed over the flame and about 5 grams of potassium persulphate are added, little by little, with occasional stirring, as the temperature of the liquid is gradually raised. In about half an hour the contents of the dish will have become almost colorless, owing to the oxidation of the organic matter. When the liquid is concentrated to about 50 c.c. it is introduced into a platinum dish and an electric current passed through it for about eight hours. Before beginning, the poles are tested by introducing the terminals into a salt solution containing a few drops of phenolphthalein. After allowing the current to run for a sufficient time, the liquid is poured away and the dish well washed with distilled water. Hydrochloric or nitric acid is then added and, after digesting in a water bath or heating over a Bunsen flame, a stream of sulphuretted hydrogen is passed through the liquid. The quantity of lead present can be accurately determined by matching the color with the standard solution of lead nitrite. Great care should be used in obtaining lead-free sulphuric acid, and all material should be tested. In this way they have detected the most minute quantities of lead when other tests have failed.

9. **Human and Bovine Tuberculosis.**—In this preliminary note, Raw holds that there is some evidence to assume that tabes mesenterica is not true tuberculosis nor caused by the same organism as the pulmonary variety. He also concludes:

1. That there are two distinct varieties of tuberculosis affecting the human body, one produced by human tubercle, and the other produced by bovine tubercle. 2. That human and bovine tuberculosis are separate and distinct. 3. That bovine tuberculosis entering the alimentary canal in milk may set up tabes mesenterica, more especially in children. 4. That bovine tuberculosis is probably the cause of enlarged lymph glands, tuberculous joints, and lupus. 5. That true human tuberculosis or phthisis pulmonalis is always conveyed from one person to another by infection, and generally from advanced cases of phthisis. 6. That every effort should be made to stamp out tuberculosis in cattle, and that milk should be boiled before use by children.

12. **Astereognosis.**—After reporting a case in a tabetic patient, Rennie discusses the condition and concludes that when it occurs in this condition it is a manifestation of dissociation of these special sensory perceptions which in a normal person are all co-ordinated in the higher sensory center in the brain. That it does not occur in every case of tabes is proof of the random action of the toxin, which seems, in some cases, to affect the different peripheral sensory structures or afferent nerve fibers.

13. **Birth Paralysis.**—This condition in the upper extremities is described by Kennedy, who advocates operation and suturing of the brachial plexus. He has operated on three cases, one of which has made a good recovery. In the other two, sufficient time has not elapsed to draw a conclusion.

16. **Vaccination During Menstruation.**—Dawson reports a case in a healthy girl where vaccination seemed to cause amenorrhea, with serious disturbance, lasting for several months. At one time the symptoms suggested gastric ulcer, vomiting of blood ushering in the return of her normal menstrual periods.

19. **Bilberry (Vaccinium Myrtillus).**—Bernstein finds this, the European huckleberry, a valuable intestinal antiseptic. He tried it *in vitro* and clinically in enteric fever and dysentery with excellent results. He started fourteen years ago by prescribing it simply for its astringent qualities, giving the jam made from the berries in fermentative diarrheas with flatulence and cases of cholera nostras. In 1897 he tried it for the first time in a case of typhoid in a child. It seemed to him that the disease took a milder course and convalescence was earlier. The second case acted similarly, and likewise two cases in adults.

The Lancet, London.

January 31.

21 *The Treatment of Abdominal Emergencies. J. Rutherford Morison.
22 *Further Investigations Regarding the Infective Nature and Etiology of Pernicious Anemia (25 Cases). William Hunter.
23 *The Meaning of Uric Acid and the Urates. Dr. Woods-Hutchinson.
24 *The Surgical Treatment of Gastric and Duodenal Ulcers. B. G. A. Moynihan.
25 Suppression of Urine in a Case of Ovarian Tumor and Pregnancy; Removal of Tumor and Uterus; Recovery. Hernard Pitts.
26 The Cosmetic Value of Paraffin Injections After Enucleation of the Eyeball. A. Maitland Ramsay.
27 Sunstroke. J. Gray Duncanson.

February 7.

28 *Aseptic and Antiseptic Surgery. W. Watson Cheyne.
29 *Fibroids of the Uterus and Ligaments Considered from a Clinical and Surgical Standpoint. Alban H. G. Doran.
30 *Electric Shocks. S. Jellinek.
31 *The Value of Blood Examinations as an Aid to Diagnosis and Prognosis. J. H. Bryant.
32 *Notes on the Results of the Treatment of an Unusual Series of Cases of Acute Intussusception. Hugh M. Rigby.
33 A Case of Extrauterine Fetation. Thomas H. Morse.
34 *Further Investigations Regarding the Infective Nature and Etiology of Pernicious Anemia (25 Cases). William Hunter.

21. **Abdominal Emergencies.**—Morison says the first duty of the practitioner in attending an abdominal emergency case is to determine whether it is one of the extreme cases or not, and when this is settled one-third gr. of morphin should be injected hypodermically and then operation pushed without a moment of unnecessary delay. In case of general peritonitis, when the abdomen has become distended, operation is too late, but if it is decided against, the first thing is to stop the administration of all food and drink by the mouth, wash out the stomach with an abundance of hot water if vomiting is troublesome and keep the patient perfectly quiet with small and repeated doses of morphin hypodermically. A linseed meal poultice large enough to cover the whole abdomen should be applied for an hour and repeated every eight hours, abundance of heated cotton-wool being substituted in the interval between the poultices. In the less serious cases, we should make a differential diagnosis as rapidly as possible. The first thing is to examine the hernial sites and to learn the history of the case. It is important to know whether the colon lies behind or in front of the tumor and to learn if previous attacks have been followed by jaundice or hematuria. In the female the possibility of twisted pedicle or ovarian tumor is to be suspected, and missing the menstrual period and other signs may indicate an ectopic pregnancy. He thinks that every acute case of appendicitis should be operated on without delay if, after a single dose of morphia and at the end of eight hours, every symptom and sign of danger have not disappeared. The risks of removing the acutely inflamed appendix, the author says, have been exaggerated. In concluding, he mentions pneumonia commencing with abdominal symptoms and suggesting abdominal disease. It is usually in patients past middle life in which this mistake has been made.

22. **Pernicious Anemia.**—This installment of Hunter's article is largely a comparison of Biermer's pernicious anemia and the disease described by Addison. Biermer's anemia is a complexus of conditions which may be produced by many causes. Idiopathic anemia is, as Addison thought, a disorder of definite infective nature, in which both the clinical observations and necropsy reveal well-defined infective and hemolytic lesions invariably associated with the disease and in which a very definite number of points can be got out of the history, throwing light both on the mode of origin of the disease and the sources of infection.

23. **Uric Acid.**—Woods-Hutchinson offers the following proposition, which seems to him, in the light of our present knowledge, the most rationally tenable view of gout and lithemia:

1. There is no connection whatever between the production of urea and of uric acid, hence interdiction and marked limitation of animal or of nitrogenous foods, as such, in gout is irrational. 2. The uric acid produced in health comes exclusively from two sources, the larger moiety, or exogenous uric acid of Chittenden, from the nucleins and purin bases of the food, the smaller, or endogenous moiety, from the destructive metabolism of the nucleins of the body tissues. 3. It is the endogenous moiety alone which is increased in gout and lithemia. 4. Gout and lithemia are mere symptom names for a miscellaneous group of chronic toxemic processes of widely varied origin, characterized by the production of uric acid and the urates. 5. By "gouty diathesis" we mean the possession of a sufficient degree of resisting power on the part of the protective cells of the body to oppose the entrance of any poison, whatever its character or source, with consequent destructive metabolism and production of uric acid, but not adequate to neutralize or successfully to prevent its absorption. 6. The uric acid of gout, like the phosphoric acid which invariably accompanies it, is merely a result and measure of the destructive metabolism of the nucleins of the body cells, chiefly probably of the leucocytes, in response to the invasion of poisons or toxins, either organic or inorganic (lead, phosphorus, alcohol, acetone). 7. Hence the use of lithia or other "solvent" agents is irrational, and any benefits resulting are to be explained on other grounds. 8. As most of the toxins setting up this destructive metabolism and consequent uric acid production are of intestinal origin or entry, diet in gout should be regulated solely with regard to the diminution of intestinal fermentation and putrefaction. 9. As animal foods, from their much more appetizing and attractive flavors, are more apt to be indulged in in excess of the oxidative powers of the body, their limitation may be found to be more frequently necessary than that of vegetable foods, but sugars and starches are also very often at fault. 10. As uric acid and the alloxur group are not toxic, or, at best, feebly so, and are not the cause of gout, the prohibition of even foods rich in nucleins and purin bases, such as red meats, roe and sweetbreads, has no rational basis and is clinically of doubtful utility except by diminishing the attractiveness of the dietary. 11. The rôle of the liver in gout is a negative one, being inability to perform its chief normal function as a "poison filter" and to absorb or to transform into harmless excretory substances the excess of toxins brought to it by the portal vein. 12. The drugs found of value in gout owe their efficacy chiefly to their power of checking intestinal putrefaction or of preventing the absorption or promoting the elimination of its products.

24. **Gastric and Duodenal Ulcers.**—Moynihan discusses the treatment of chronic and acute gastric and duodenal ulcer. He finds there is a possibility of recovery from the subacute and, perhaps, from acute perforation of the stomach without operation. He does not excise the ulcer in operating, but uses continuous sutures of catgut taken wide of the ulcer, folds the stomach walls over and buries the rent. A second continuous suture of Pagenstecher thread is placed outside the first. He generally flushes the abdomen if much soiled, and if only a little soiled he wipes it clean with large swabs dipped in saline solution and used at once without being squeezed. Drainage is rarely necessary. He discusses the characteristic symptoms and the character of hematemesis. He says the treatment of hemorrhage will depend on the nature of the ulcer. If from an acute ulcer, medical treatment alone will suffice, and surgery is rarely required. If any operation is to be done, gastroenterostomy is probably the most effective. In chronic ulcer, operation should be advised as early as possible. If readily exposed and not adherent to the pancreas or other organ, the ulcer, if solitary, should be excised, but a simple gastroenterostomy is probably sufficient to secure the arrest of the hemorrhage and the rapid healing of the ulcer. In performing gastroenterostomy he has lately used the simple suture and performed the posterior operation after the method of Von Hacker, the steps of which he describes. He thinks an error in the proper adjusting of the anastomosing loop is an undoubted cause of regurgitant vomiting, and in such a case he should in the future prefer Roux's operation, "the gastroenterostomy in Y," to any other. In connection with the operation of gastroenterostomy the following points are worthy of attention: Sterilization of the mouth, stomach and jejunum. Washing out mouth and stomach with calomel 48 hours before. He would use india-rubber gloves; no antiseptic, and take scrupulous care to avoid any possible infection from the mucosa. Scissors and clips which touch the mucous membrane are at once laid aside and not used during the subsequent stages of the operation.

28. **Aseptic and Antiseptic Surgery.**—Cheyne advocates the moderate use of antisepsis in surgery, and gives in parallel columns the disadvantages and advantages of the two as he estimates them. The differences are slight, but he believes important. He thinks in giving up catgut the surgeons have lost an important aid in wound treatment, and in the giving up of buried sutures for uniting divided muscles, etc., have taken a retrograde step. There is no special difficulty in aseptic-izing catgut and he can not conceive what should make silk more difficult of sterilization than swabs, etc. It is not the imperfect sterilization of these which make trouble—it is that they are present in a wound to which bacteria have been admitted by the employment of imperfect bacteriologic methods. He sees no logical reason whatever for giving up the use of antiseptic substances in the use of dressing. They can do no harm and may be a decided defense against infection.

29. **Fibroids of the Uterus.**—Doran's article is too detailed and lengthy to be fully abstracted here. He describes the anatomy of the parts and the specially pathologic conditions observed in broad ligaments, ovarian ligaments, round ligaments and undeveloped uterine cornua. He does not favor oöphorectomy for fibroids, though it can be advantageously done under exceptional conditions.

30. **Electric Shocks.**—Noticing an article by F. B. Aspinall, which appeared in *The Lancet* of March 8, 1902, and abstracted in THE JOURNAL of March 29, ¶12, p. 849, Jellinek reviews cer-

tain points and questions suggested. He agrees with Aspinall as to the importance of individual susceptibility, and holds that in certain diseases, such as Graves' disease, a lowered skin resistance predisposes to the accidents of electric shock. As regards the different physiologic conditions of the subject, he has made experiments on rabbits and finds that narcosis makes them more resistant. Therefore, the statement of Aspinall that electric shocks are less dangerous during sleep is probably correct. The path which the current takes through the body is important, as Aspinall says, and the left side is more sensitive than the right, but he attributes this not to the effect on the valves of the heart, but rather to the effect on the ganglia of that organ. As regards the effect of burns he disagrees, holding that they are not a protection. The time during which the person is exposed to the current is important. The alternating and direct current shock seem both likely to be fatal or dangerous when of a high voltage. With a low voltage or tension the alternating current is more disagreeable. Instead of there being a difference between the two, in one the direct current paralyzing and the alternating producing spasm, Jellinek finds these currents alike seem to produce severe spasm during their action. The question asked by Aspinall, why medical men can not give us a more certain method of ascertaining whether a man is dead or not is answered by the author that in his experiments on animals he has observed several hours after apparent death signs of life were present, and for this reason he believes that attempts at restoration after shock should be continued for hours, or until some certain signs of death appear. The suggestion made by Aspinall that the body should be held head downward to flush the brain, he considers a very dangerous one, as the capillaries of the central nervous system are torn and, in such a condition, would only run a greater risk of cerebral hemorrhage. It would be better, he thinks, to perform venesection, and artificial respiration should be continued for hours; massage of the abdomen and of the region of the heart, placing the patient in a hot bath, subcutaneous injections of ether, camphor, strychnin should also be carried out. He believes many cases pronounced dead may be revived by taking the necessary time and trouble.

31. **Blood Examination.**—Bryant reports cases illustrating the value of blood examinations which, while not infallible, are certainly of great value.

32. **Intussusception.**—The conclusions summarizes by Rigby from his series of cases are:

1. That in these cases immediate laparotomy should be insisted on without delay; 2, that no valuable time should be lost in attempting inflation of air or injection of fluids per rectum; 3, that the keynote of operative success is rapidity; 4, that in favorable conditions, as in hospitals and with skilled assistants, the mortality of reducible intussusceptions should be diminished to a very small percentage: and 5, that the chief points in the after treatment are (*a*) early feeding and (*b*) the use of opium when necessary.

34. **Pernicious Anemia.**—In this second installment of his article, Hunter gives the etiology of his 25 cases and other facts which seem to him to point out the differences of Addison's anemia from the progressive pernicious anemia of Biermer. He thinks a new nomenclature is advisable, and would suggest for this disease the name "infective hemolytic anemia" or Addison's anemia.

Intercolonial Medical Journal of Australasia, Melbourne.

December 20, 1902.

35 Notes on Puerperal Eclampsia. G. Rothwell Adam.
36 Simple Cysts of the Liver. Basil Kilvington.

Bulletin de l'Academie de Medecine, Paris.

37 (January 13 and 20.) Prof. P. Panas. Obituary.
38 Discussion of Value of Arrhenal.
39 *Discussion and Resolution in Regard to Notification of Diseases.

39. **Diseases Requiring Notification.**—The final resolution adopted by the Académie after long discussion was as given in THE JOURNAL of February 7, p. 389, with the exception that epidemic cerebrospinal meningitis was added to the list of diseases requiring compulsory notification. They are as follows: Typhoid fever, exanthematous typhus, variola and varioloid, scarlet fever, measles, diphtheria, miliary fever, cholera and choleriform diseases, plague, yellow fever, dysentery, puerperal infections and ophthalmia neonatorum when secrecy in regard to the pregnancy has not been enjoined, and finally, epidemic cerebrospinal meningitis. A second list comprises the diseases for which notification is optional, and requires the consent of the family. It includes pulmonary tuberculosis, whooping cough, la grippe, pneumonia and bronchopneumonia, erysipelas, mumps, leprosy, tinea and purulent conjunctivitis and granular ophthalmia. The Académie recommended that special postal cards should be supplied for the purpose to all physicians, health officers and midwives, the diseases to be designated by number.

Centralblatt f. Allg. Pathologie, Jena.

40 (XIII, 11.) Fat in Kidney Infarcts. F. J. Fischler.—Ueber den Fettgehalt in Niereninfarkten. Zugleich ein Beitrag zur Frage der Fettdegeneration.
41 Neue Methode zur Färbung (staining) von Horn Substanz. H. Ebbinghaus.
42 Die microscop. Diagnose des Chorion-Epithelioma malignum aus curettirten Massen. L. Aschoff.
43 Die Wirkung des Toluylendiamins auf die Blutkörperchen (corpuscles). E. Schwalbe. Critical summary.
44 (No. 12.) Ueber den Kern (nucleus) und die amöboide Bewegung der Blutplättchen (blood-plaques). K. Wlassow.
45 (No. 13.) Beobachtungen bei der Färbung (staining) der elastischen Fasern (fibers) mit Orcein. E. Wolff.
46 Ueber die Anwendung (application) des Gallein zur Färbung (staining) des Central-Nerven-Systems. H. Aronson.
47 Ueber die Verbreitung (dissemination) von Geschwulst-Metastasen in der Lunge. A. Treutlein.
48 *Fortschritte auf dem Gebiete der Pathologie und path. Anatomie, 1901. E. Kromayer. Report of Progress.
49 (No. 14.) Die Serum-Diagnose verschiedener Blutarten und ihre Bedeutung für die forensiche Medicin. K. Ziegler. Critical summary.
50 (No. 15.) Beiträge zur Pathologie des Pfortaderkreislaufs (portal circulation). F. Saxer.
51 Study of Stainability of Living Tissues. A. Motta Cocl.—Ueber das functionelle Verhalten der Wimperepithelien des Frosches gegen Methylen-Blau.
52 (No. 16.) Histolog. Untersuchungen über die path. Eigenschaften eines aus dem "Murex brandaris" isolirten Microorganismus.
53 Die path. Anatomie der Porencephalie. Schütte. Collective Review.
54 (No. 18.) Fall von Adenocarcinoma der Leber (liver). G. Herxheimer.
55 Ueber Tuberculose quergestreifter (striated) Muskeln. S. Saltykow.
56 Gas-Gangrän und Schaum- (foam) Organe. A. Sandler. (Commenced in No. 12.)
57 Pathologie at the Naturforscher Congress.
58 (No. 19.) *Experimentelle Untersuchungen über die Wirkung todter Tuberkel-Bacilli. C. Sternberg.
59 (No. 20.) Connective Tissue Formation in Inflammation. E. Ziegler.—Ueber entzündliche Bindegewebs-Neubildung.
60 Ueber Septikaemie und Pyaemie. C. v. Kahlden.
61 (No. 21.) Ueber die path. Histologie des Conglomerat-Tuberkels im Cerebrum. O. Barbacci.
62 Zur Frage über die Einschlüsse in und zwischen den Krebszellen (cell inclusions). W. N. Klimenko.

48. **Progress in Pathology in 1901.**—Kromayer cites as the most important works in this line in 1901 Bockhardt's study of eczema, the isolation of the microörganism of soft chancre, and Blaschko's study of the nerve distributions in the skin and their relations to cutaneous affection. He also mentions Judalewitsch's discovery that the nevus cells thrown up by the epithelium become transformed into connective tissue cells.

58. **Experimental Research with Dead Tubercle Bacilli.**—Sternberg found that he was able to induce the production in animals of the same tubercular lesions by injection of tubercle bacilli whether they were dead or alive. The only difference was that the extension of the process was proportional to the amount injected of the killed bacilli. This result was not constant, and only followed when a thick culture was injected.

Centralblatt f. Chirurgie, Leipsic.

63 (No. 50.) *Prevention of Hernia After Laparotomy. O. Wolff.—Wie lässt sich der Bauchbruch nach Laparotomie vermeiden?
64 Contrivance for Aseptic Self-Catheterization at Any Time.—W. Hirt.—Vorrichtung zum aseptischen Selbstkatheterismus ausser dem Haus.
65 (No. 51.) *Zur Radikal-Operation des congenitalen Leistenbruches (inguinal hernia) kleiner Kinder (of small children). Karewski.
66 Improved Suture Forceps for Metal Sutures. J. W. Silberberg (Odessa).—Eine verbesserte Nähzange für Metallnähte.
67 Receptacle for Threaded Needles. H. Eckstein.—Sterilisirbarer Behalter für eingefädelte Nädeln.
68 (No. 52.) *Zur Technik der Magenausspülung (lavage of stomach). C. Neck.
69 Zur chirurgischen Technik. M. Silbermark.
70 (XXX, 1.) *Harte und weiche (hard and soft) Paraffin Prothesen. R. Gersuny.
71 Zur Vereinfachung der Naht (simplification of suture) bei Anwendung des Murphy-Knopfes (button). Von Hacker.

72 Ein eigenartiger Bruchsackinhalt (peculiar contents of hernial sac). J. Wietung.
73 (No. 2.) *Mobilisierung des Duodenum und Gastroduodenostomie. T. Kocher.
74 *Sehnen- (tendon) Transplantation und Verhalten (behavior) der Sehnen beim Plattfuss (flatfoot). E. Müller.
75 Wanderniere (wandering kidney) und Skoliose. O. Bender.
76 (No. 3.) *Application of Artificial Fistula between Gall Bladder and Intestine. H. Thomson.—Bemerkungen zur Anlegung der künstlichen Gallenblasen-Darmfistel.
77 Flexible Double Tracheal Canula. Tavel.—Eine lange biegsame Tracheal-Doppel-Kanule.
78 (No. 4.) *Prevention of Hernia After Laparotomies. J. Hahn. Die Verhütung des Bauchbruchs nach Laparotomien.

63. **Prevention of Hernia After Laparotomies.**—Wolff ascribes the tendency to hernia to the tension exerted on the suture by meteorism. He therefore directs special attention to the prevention of meteorism and has found that conditions were very much improved thereby.

65. **Radical Operation for Congenital Inguinal Hernia in Children.**—Karewski states that six to twelve years have elapsed in a number of cases since he operated on congenital hernia in very young children. His method is particularly applicable to severe cases of scrotal hernia, and its simplicity and facility commend it for general adoption. The incision is carried down only to the serosa and the processus vaginalis peritonei, forming the inner layer of the sac, is detached with the fingers. The parts are isolated to beyond the internal inguinal ring and at this point the peritoneum is tied. This affords a firm support and no further radical intervention is necessary even as late as the fourth year of age. The wound heals rapidly, although frequently soiled by the infant's discharges. He applies an iodoform dressing at first, changed every day, and later airol salve.

68. **Improved Technic of Rinsing the Stomach.**—Neck finds that it is possible to empty the stomach completely under all circumstances, by elevating the pelvis after the ordinary rinsing is finished. By this means considerable amounts of stomach contents can be evacuated after the organ is supposed to be empty. He has confirmed these clinical findings on the cadaver. The most complete evacuation is secured when the stomach tube is gradually withdrawn after the pelvis is raised. This prevents any accumulation of the contents around the tip of the sound projecting into the fluid.

70. **Paraffin Prothesis.**—Gersuny is much pleased at the reception accorded his method of subcutaneous prothesis, but he does not consider the substitution of paraffin with a higher melting point as any advantage. He still uses what he first recommended: Ung. paraffini with a melting point at 35 or 40 C., but has been experimenting lately with a still softer combination, mixing one part of the above with four parts of olive oil. The oil is gradually absorbed, leaving the encapsulated particles of paraffin at the same distance apart. The size of the prothesis remains the same, but it is not so solid as when paraffin alone is used. When injecting the paraffin into very porous tissue he commences with a very small amount, not more than 1 c.c., and waits a week until this is completely encapsulated before injecting the remainder of the paraffin into the center of the first deposit. His finest cosmetic results have been obtained in cases of hemiatrophy of the face, in raising Thiersch flaps and imparting the natural color to them by the under layer of paraffin, and also in obliterating the pits left by smallpox.

73. **Technic of Lateral Gastroduodenostomy.**—Kocher thinks that his method of anastomosis between the stomach and the duodenum is far superior to all other methods of gastroenterostomy, as it entirely avoids the "vicious circle," and can be conveniently done outside of the abdomen. Others have used it, and their results confirm his dictum, but they have considered it necessary to restrict it to cases in which the duodenum was movable. This is not necessary, he states, as it is easy to mobilize the duodenum in all cases unless it is extensively adherent to the liver. The loop of the duodenum hangs free during embryonal life, and is still very movable in children, but later becomes adherent to the posterior wall of the abdomen, whence it is easily detached, as can be established on the cadaver. The thin sheet of the parietal peritoneum is slit perpendicularly to the right of the descending portion of the duodenum. The incision passes in front of the right kidney, to the left of the descending part of the right flexure of the colon passing downward to the transverse colon. The parietal sheet of the peritoneum passes here from the anterior surface of the kidney to the colon and forms the upper sheet of the transverse mesocolon. The finger can be passed along the vertical portion of the duodenum above the peritoneal sheet of the kidney and into the foramen of Winslow, and thus lift up the hepato-duodenal ligament with the hepatic artery, portal vein and common bile duct. The thin sheet of peritoneum should be incised, not torn, parallel to the vertical portion of the duodenum and at least two finger widths from it. The portion of the sheet adherent to the duodenum can then be lifted and two fingers passed behind the latter, thus gently detaching it from the anterior surface of the spine, vena cava and aorta. The lower flexure of the duodenum can also be mobilized in the same way by slitting the peritoneum passing down to the colon. No large vessel is injured by the procedure. The head of the pancreas is raised with the duodenum so that the concave margin offers no resistance to the lifting of the duodenum. The posterior surface of the duodenum is not exposed down to the muscularis. It retains as the remains of its former peritoneal covering a sheet of connective tissue which, in comparison to the rest, has a raw appearance. These maneuvers mobilize the vertical portion of the duodenum to such an extent that it can be readily laid against the anterior surface of the pyloric portion of the stomach, above the greater curvature. The mobilization of the duodenum is restricted by the vessels, especially that of the superior flexure, but sufficient for the anastomosis, can easily be mobilized and the conditions realized by the change of position of the loop are peculiarly favorable for the anastomosis, as the duodenum retains its peritoneal covering intact on its anterior surface, now turned toward the left for union with the stomach. He has performed the operation by this technic in 5 cases, once for carcinomatous and four times for cicatricial stenosis of the pylorus.

74. **Transplantation of Tendon for Flat Foot.**—Müller detaches the tendon of the tibialis anticus from its attachment and draws it through a hole bored for it in the navicular bone, about the size of a pencil, passing from below upward and a little to the rear. The tendon is drawn through with a thread and is then pulled downward while the foot is pressed into normal shape. The end of the tendon is then drawn around the inner surface of the navicular and fastened to the bone with a wire suture. This holds the foot in its normal arched shape as if by a bridle. He emphasizes the necessity of cutting the Achilles as an indispensable preliminary to this and numerous other interventions on the foot.

76. **Technic of Artificial Gall Bladder Fistula into Intestines.**—Thomson's article is a plea for the more general use of the Murphy button for these operations.

78. **Prevention of Hernia After Laparotomy.**—Hahn attributes his success in the avoidance of post-operative hernias in a series of 88 laparotomies, to the use of sterile silk for the sutures, to the complete healing in of the threads and to his method of isolated suturing of the peritoneum and transverse fascia, then suturing the aponeurosis, exclusive of the muscle, as the fibers of the latter are liable to tear, concluding by the suture of the skin with a supplementary buried suture in case of much fat. In preparing his hands he cleanses them mechanically, he states, in hot soapy water for forty minutes and then devotes ten minutes more to the rinsing, drying and soaking in a 1/1000 solution of sublimate. He draws the threads in the skin the seventh to ninth day, and allows the patient to get up the thirteenth. No abdominal bandage is worn.

Centralblatt f. Gynaekologie, Leipsic.

79 (No. 52.) *Zur Technik und Anwendung des vaginalen Sectio cesarea. E. Bumm.
80 *Ueber Primiparæ unter 16 Jahren. A. Palotai.
81 *Zur Amenorrhoe dem Alter nach geschlechtsreifer Mädchen (of girls old enough to be sexually mature). L. Pincus.
82 *Septische Mastitis. M. Bensinger.
83 (XXVII. 1.) Zur Problem der geschlechtsbestimmenden Ursachen (causes of sex determination). B. S. Schultze.
84 Indiziert eine Uterus-Ruptur Sectio cesarea bei wieder eintretender Gravidität? O. Küstner.

85 *Ueber die Vorzüge der Ether-Narkose. J. Pfannenstiel.
86 Die Technik der Ether-Narkose an der gyn. Klinik zu Giessen. Kroemer.
87 (No. 2.) *Weitere Fälle von vorgeschrittener Extra-uterin-Gravidität bei lebendem Kinde behandelt im Coeliotomie. A. Sittner.
88 (No. 3.) *Fall von Endothelioma ovarii. M. Lange.
89 Beitrag zur Anwendung des Bossi'schen Dilatatorium. Osterloh.
90 Komplikation der Gravidität und Geburt (birth) mit Mastdarmkrebs (carcinoma of rectum). W. B. Semmelink.
91 (No. 4.) Ueber instrumentelle Dilatation der Cervix resp. des Muttermundes an der hochschwangeren oder kreissenden Gebärmutter (in advanced pregnancy or in labor). W. Zangemeister.
92 *2 Fälle von Lateralschnitt des Beckens (extramedian symphysiotomy) nach Gigli. E. Pestalozza.
93 *Zur Kenntniss der regionären Lymphdrüsen (lymph glands) beim Uterus-Carcinoma. E. Wertheim.
94 (No. 5.) *Nachtheile (disadvantages) der Ventrofixation. R. Gradenwitz.
95 Sectio cesarea und Ovariotomie wegen eingekeilten (impacted) Ovarial-tumors. G. van der Briele.
96 Primäre Bauchhöhlen- (abdominal cavity) Gravidität auf einem Netzzipfel (pointed process in the omentum). K. Witthauer.
97 Zur Eklampsie-Behandlung. E. Sintenis.

79. **Vaginal Cesarean Section.**—Bumm describes in detail 13 cases treated by vaginal cesarean section, which establish, he believes, that section of the anterior wall of the cervix alone is ample enough for nearly all cases, even at term, when there is no malignant growth and the uterus is to be retained. The portio is exposed and the sides seized with Collins' forceps. A sagittal incision from 5 to 7 cm. in length is then made in the mucosa of the anterior vaginal vault to the lip of the os. The loose cellular tissue between the bladder and cervix is cut with a few strokes of the scissors and the bladder pushed back to the orific. int. The anterior wall of the cervix is then incised on the sagittal line to this point. The upper edges of the wound are then drawn aside with two Collins', as for vaginal myomotomy. This exposes the lower segment of the uterus, and after the bladder has again been pushed out of the way, the uterus wall is incised. By this means an incision 8 to 12 cm. long can be made under complete control of the eye and without opening into the peritoneum. Even a fetus at term can be readily extracted through it. The bleeding is most profuse when the mucosa of the vagina is incised. He waits for the spontaneous expulsion of the placenta, which usually follows in fifteen minutes. He sutures the uterus with a row of catgut sutures and has never observed any mishaps or complications. In one case the incision measured exactly 7 cm. from the orific. ext. upward, and through it a child weighing 3,250 gm., with a suboccipito-frontal circumference of 34 cm., was extracted without trouble. The lips of the wound, therefore, must stretch, but they have never torn in his experience. The vaginal walls are more resistant than the incised cervix, in primiparæ, and lacerations are liable to occur in the perineum, vulva and side walls of the vagina. In the 13 cases described only one terminated fatally, and in this case the death was undoubtedly due to the severe eclampsia. In 8 the patients were aseptic, and there was no febrile reaction to the operation. Fever was noted four times; in two the patients had been infected by repeated examinations before entering the hospital; in one a pregnancy nephritis with edema prevented the union of the parts, and in one the uterus contained a purulent carcinoma. The wound in the vaginal vault and cervix healed faultlessly, with the exception of three infected cases. This median anterior hysterotomy leaves a harmless, easily healing wound, which does not interfere with further function of the parts. Even in a case of severe streptococcus infection, as the plica anterior of the peritoneum was not opened, there was no peritonitis. He has become convinced by his experience that in eclampsia the patient should be delivered at once after the first attack as the only means of safety, and he has found vaginal cesarean section the best method, if natural delivery be impossible. He thinks it is a less dangerous procedure than rapid dilation with the metal dilators, which are apt to lacerate the cervix. In one of his cases the operation was undertaken on account of the placenta previa, and the results encourage him to believe that this will be found the best method also for treating this condition. Many women bleed to death, not from the vessels in the placenta previa, but from lacerations in the cervix or at the point of implantation of the placenta. These can be prevented by vaginal section. He also considers it useful as a means of artificial delivery in case of an absolutely torpid uterus. Vaginal cesarean section exposes to less dangers than days of ineffectual maneuvers to arouse the torpid uterus to action. In the total of 39 cases of vaginal cesarean section which he tabulates, the mortality was 8, and in 3 of these the death was due undoubtedly to the coincident eclampsia and in 2 others to heart disease. Anemia, peritonitis and sepsis from the dead fetus were noted in the other fatal cases. The cesarean section was undertaken on account of carcinoma in 23 cases, and of eclampsia in 6.

80. **Primiparae Under 16.**—Palotai has observed 25 cases of childbirth under 16, a proportion of .145 per cent. of 8,054 primiparæ admitted to the Budapest Frauenklinik. Among them were 7 who were only 14, and 18 who were 15 years old. One of the 14-year-old mothers had been blind from birth, another had been violated, and 2 others had never menstruated. In the others menstruation had occurred from once to five times. The course of the pregnancy was normal, but abortion occurred once, and delivery was premature in 28 per cent., but was exceptionally brief in all, and all the children were viable. The puerperium was normal, the prognosis for injury of the parts during delivery is very good and also the prognosis for the welfare of the child. When Nature confers the possibility of conception she evidently makes arrangements for its consequences to follow without hindrance.

81. **Amenorrhea of Girls Old Enough To Be Sexually Mature.**—Pincus thinks that this field is too much neglected. When the amenorrhea is long continued, even without symptoms, internal exploration is indicated in case of preceding infectious diseases or constitutional anomalies, menstrual molimina or vicarious hemorrhage.

82. **Septic Mastitis.**—Bensinger's patient was ii-para, 30 years old, healthy and with no morbid antecedents except a severe febrile reaction to an insect sting nearly two years before. The birth and puerperium were normal, and the patient was tended by a superior nurse. The eleventh day symptoms of mastitis developed, and the nursing babe was weaned. The babe developed the second day a phlegmonous inflammation behind the ear, and died the third day with multiple small cutaneous abscesses. The mother died two weeks after the first symptoms of the septic mastitis, with multiple suppurative foci. In seeking for the cause of the infection, an old, dirty book from a circulating library was found in the bed. The patient had been in the habit of reading while nursing her babe. Bacteriologic examination of the leaves of the book disclosed numerous streptococci, associated with other microörganisms. Bensinger also refers to the possibility that the blood poisoning from the insect sting may have left some latent focus. The nurse had tended a scarlet fever patient six weeks before being called to this case, but all her patients in the interim had been "normal cases." The sequel to the case was a defamatory letter sent to the physician by the sister of the deceased, for which she was condemned by the local court to a fine of $63 and costs.

83. **Cause of Sex Determination.**—Schultze argues to prove that the sex of the ovum is already settled in the ovary.

85. **Advantages of Ether.**—Pfannenstiel proclaims that the correct technic for an ether narcosis is to induce a tipsy condition with a small amount of ether, the "ether-Rausch," then slight intoxication from the carbon dioxid of the expired air, and thereafter, with a regular supply of weak ether fumes, maintain the narcosis at the proper point, raising the mask from time to time so that a little atmospheric air may be breathed. By this method he finds 100 c.c. of ether sufficient for even protracted operations. The mouth, throat and nose are rendered as aseptic as possible before commencing, which reduces the danger of pneumonia, and the room is kept very warm and every effort made to avoid chilling the patient on his way to and from the operating room. He aids the elimination of the ether by inducing diuresis and sweating. If drinking of fluids causes vomiting, this is regarded as an aid in the elimination. He also has water injected per anum.

Ether leaves the body much more rapidly than chloroform. With these precautions, he considers ether as almost completely harmless, while chloroform is always a serious poison.

87. **Extra-Uterine Pregnancy with Living Child.**—Sittner adds 16 more cases to the 126 he collected and published in the Landau *Festschrift;* 3 of them date since 1900. The mortality was 15 per cent. in the 40 cases occurring between 1896 and 1900. In one of the latest series the placenta had developed on the peritoneum and liver. The placenta was left. The patient died. In one the placenta developed on the intestines and in three on the organs in the pelvis. The mortality was very high in these and in the similar cases previously described. Four of the eight viable children are living. One died three weeks later of a gastro-intestinal trouble, and three others in from two to sixty hours. The fetuses weighed from 3,500 to 5,000 gm. on an average. The results of Sittner's compilation indicate that the possibilities of well-developed, viable children under these circumstances are greater than hitherto accepted. In seven cases the mothers were supervised and the pregnancy carried from the fifth, sixth or seventh month to three weeks of term, thus securing viable children. In the majority of cases extra-uterine pregnancy is followed by permanent sterility, but not always. There was subsequent normal pregnancy in eight out of twenty-five cases followed to date. He gives the particulars of the last series of cases in a convenient tabular form.

88. **Endothelioma Ovarii.**—Lange describes a case of endothelioma of one ovary which he extirpated, leaving the apparently sound mate in place. But the further course of the case proclaimed that the other ovary was likewise the seat of malignant disease. He therefore recommends as a routine procedure the removal of the second ovary in such cases, especially if the patient is 40 or over.

92. **Extramedian Symphysiotomy.**—Pestalozzi has applied in two cases Gigli's extramedian incision for opening the pelvis, described in THE JOURNAL of July 26, 1902, p. 231. Comparing the results with seven previously treated by the classic symphysiotomy, he considers the new operation a great progress. Healing was rapid and perfect without drainage, and the loss of blood was trifling, while consolidation occurred with remarkable promptness. He found it necessary to insert his finger behind the bone to prevent injury of the bladder in introducing the saw.

93. **Regional Lymph Glands in Uterine Cancer.**—Wertheim found in two-thirds of his cases of cancer of the uterus in which the lymph glands were involved, that the glands exhibited a polymorphous cellular construction. In the other one-third, however, the glands showed a tube-shaped formation lined with a single layer of ciliated epithelium. These formations were observed in 13 per cent. of all the cases that came to operation, but examination of 80 cadavers free from uterine cancer failed to disclose anything of the kind. In three instances it was possible to behold the direct transformation of a gland thus affected into a typical alveolar carcinoma, with polymorphous cells. The formations in question must, therefore, be considered metastases of the malignant neoplasm in the uterus.

94. **Disadvantages of Ventrofixation.**—Gradenwitz expresses gratitude to Kreutzmann for his denunciation of ventrofixation, referred to in this column. The smoothness and facility of the operation do not compensate for the consecutive metritis or hernia, as he illustrates by five typical cases.

Deutsche Zeitschrift f. Chirurgie, Berlin.

98 (LXVI, 1-2.) *Die Influenza in chirurgischer Beziehung. G. Perez. (Durante's Clinic, Rome.) Concluded.
99 Zur Etiologie der Coxa Vara. M. Haedke.
100 Ueber das Ballon-Symptom bei Darm-Occlusion. J. Blumberg.
101 *Zur Carcinom Frage. W. Merkens.
102 Untersuchungen auf die Lymph-Bahnen (tracts) der Wangenschleimhaut (mucosa of cheek). A. E. Polya and D. v. Navratil.
103 *Fall von subacut verlaufender traumatischer Herz- (heart) Ruptur mit Tod (death) am 9 Tag. H. Ebbinghaus.
104 Die Reposition einer veralteten path. Hüftgelenkverrenkung (hip dislocation). J. Schoemaker.
105 Eine eigenthümliche Taschenbildung (pocket formation) des Peritoneums. O. Funkenstein.
106 Zur Chemie der Sauerstoff- (oxygen) Chloroform-Narkose. L. Michaelis.

98. **Influenza in Relation to Surgery.**—Perez has been making extensive researches on animals in the way of immunization against the influenza bacillus and study of the lesions produced by the infection. He says there is scarcely an organ or tissue that may not be attacked, and the local processes range from hyperemia to abscess formation or effusion. The tympanum is the most frequent site of experimental infection. He found that he was able to induce a slight and transient active immunity. The bacilli were almost invariably found intracellular and the pus was also frequently sterile. Another point to differentiate pure influenza infection from the pneumococcal is the presence of fibrin in the latter. He also reviews 520 articles that have been published on the surgical aspect of influenza.

101. **Prognosis of Carcinoma of Mamma.**—Merkens regards all new growths in the mamma as suspicious, with the sole exception of Schimmelbusch's fibro-adenoma. Ablation of the nodule is sufficient in case of the latter. All others should be considered malignant and amputation of the breast follow the diagnosis. He scouts the idea that cancer is directly contagious.

103. **Traumatic Rupture of Heart with Subacute Course.**—Ebbinghaus warns that the prognosis should be guarded in case of traumatism affecting the left thorax, even when the walls are elastic and no serious injury is apparent; death may result as late as the ninth day, as in the case he describes. The rupture at first was probably merely a partial laceration of the heart wall, but it gradually became a complete rupture as the region of the lesion became degenerated. The vagueness of the manifestations on the part of the heart is no criterion that the danger is past. The tear may gradually grow larger without causing appreciable clinical symptoms. In his case the left ventricle was the site of the rupture, and the pulmonary valve had also been injured.

Archivio Italiano di Otologia, Etc., Turin.

107 (XIV, 1.) *Sull' uso della formalina nella cura delle otiti medie purulente croniche. G. Geronzi.
108 Mancanza (lack) quasi completa della squama temporalis. A. Bovero.
109 Nistagmo riflesso di origine nasale. G. Ostino. Four cases.
110 Sulla tiroidite acuta. G. Garbini. Two cases.
111 *La condro-pericondrite laryngea. E. P. Arias.

107. **Formalin in Treatment of Purulent Otitis Media.**—Geronzi reports the results of formalin treatment of 55 cases of chronic purulent otitis media. He commenced with a 2 per cent. glycerin solution and gradually increased the strength to 5 per cent. The middle ear was tamponed with a small strip of gauze impregnated with the fluid, or two or three drops of the 5 per cent. solution were instilled. This treatment was applied only in those cases that had proved rebellious to ordinary measures. Improvement was manifest by the second or third application; and a complete cure between the tenth and fifteenth application was obtained in 34 out of the 55. The duration of the affection in some of the cured cases was from ten to twenty-one years. The formalin reduced the size of the granulations in the tympanum and, supplemented by nitrate of silver, was able to accomplish their complete disappearance in a number of cases. He found that the addition of 5 per cent. of sodium carbonate to the 5 per cent. solution of formalin increased the tolerance, while others have proved that it also enhanced its bactericidal power.

111. **Laryngeal Chondro-Perichondritis.**—Arias concludes his comprehensive study of this subject by recommending prompt tracheotomy, which not only insures the respiration but also leaves the affected parts in repose. It may be possible to abort the abscess, as was accomplished by Ferreri with a course of salicylic medication, followed by subcutaneous injections of iodated milk, as recommended by Sclavo. The patient was a boy of 10, with chondro-perichondritis of the left half of the larynx. Tracheotomy was postponed from day to day, as there were no indications of an abscess, and improvement continued under this treatment. The lad was dismissed in four weeks with no further traces of tumefaction. If an abscess has formed, tracheotomy is the only treatment. In case of subsequent stenosis, Schroetter's method of intuba-

tion is in use in the Italian clinics. Serum therapy has always proved disastrous in tubercular inflammation, but the course of the affection may be arrested with the use of adrenalin. He has witnessed complete cures under supplementary hygienic and prophylactic measures. It is very important, however, particularly in these cases, to place the organ in repose by means of an early tracheotomy. Even in case of syphilitic inflammation a tracheotomy aids the healing process and the patient can be dismissed sooner. The prognosis of typhoid perichondritis is grave. It always entails an abscess, and Bayle had only 1 out of 17 recover without operation, Valleix only 6 out of 31, while Obédinaire cured 13 out of 24 by surgical intervention. If an abscess ruptures spontaneously the pus invades the bronchi and lungs with various sequelæ. Primary chondritis is acute; the secondary has a more chronic course. The dyspnea increases during sleep; the interspaces and epigastrium sink in during inspiration; the veins of the neck are turgid, and the superficial venous network of the thorax is visible. In the acute form the symptoms may suggest edema of the larynx. There is likewise more or less inflammatory paralysis of the posterior cricoarytenoid muscles. The cricoid cartilage is most frequently involved. Attacks of gout elsewhere may suggest the possibility that the perichondritis may be of the same nature.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

MANTON'S OBSTETRICS. A Manual of Obstetrics for Students and Practitioners. By W. P. Manton, M.D., Adjunct Professor of Obstetrics, and Professor of Clinical Gynecology, Detroit College of Medicine. Pp. 265. With 82 Illustrations. Cloth. Price, $1.00. Philadelphia and New York: Lea Brothers & Co. 1903.

FORTY-SEVENTH ANNUAL REPORT OF THE EXECUTIVE COMMITTEE OF THE HARTFORD HOSPITAL, Including the Eighteenth Annual Report of the Old People's Home and the Twenty-fifth Annual Report of the Hartford Hospital Training School for Nurses. Paper. Pp. 115. Hartford Press. 1902.

TOXICOLOGY. The Nature, Effects and Detection of Poisons, with the Diagnosis and Treatment of Poisoning. By Cassius M. Riley, M.D., Professor of Chemistry and Toxicology in Barnes Medical College. Cloth. Pp. 132. Price, $1.50. St. Louis: Lewis S. Matthews & Co.

SEVENTH ANNUAL REPORT OF THE BOARD OF MANAGERS OF THE SPRINGFIELD STATE HOSPITAL of the State of Maryland, Sykesville, Md., to His Excellency, the Governor of Maryland. Oct. 1, 1902. Paper. Baltimore: The Sun Book and Job Printing Office. 1903.

THE NOSE AND THROAT IN MEDICAL HISTORY. By Jonathan Wright, M.D. Cloth. Pp. 244. Price, $2.00. St. Louis, Mo.: Lewis S. Matthews & Co.

TRANSACTIONS OF THE BERKS COUNTY MEDICAL SOCIETY for the Year 1902. Volume VII. Paper. Pp. 124. Reading, Pa.: Norton Printing House. 1902.

New Patents.

Patents of interest to Physicians, February 3 and 10:

719781. Clinical thermometer. Charles J. Fritsch, Brooklyn.
719586. Insufflator. Sayer Hasbrouck, Providence, R. I.
719587. Atomizer. Sayer Hasbrouck, Providence, R. I.
719588. Spraying device. Sayer Hasbrouck, Providence, R. I.
719675. Support for massage machines. Francis King, San Francisco.
719487. Dilator. Wm. E. Minor, Kansas City, Mo.
719901. Photochemical and electrotherapeutical apparatus. Albert E. Sterne, Indianapolis.
719915. X-ray apparatus for treating diseases. Henry E. Waite, New York.
720311. Corn-eradicator. John B. Abler, Akron, Ohio.
720107. Door for sterilizers. Julius Brucker, Brooklyn.
720234. Sterilizing case for thermometers. Oscar H. Elbrecht, St. Louis.
720020. Medicinal battery. Fred Grimshaw, Northeast, Pa.
720159. Sterilizer. Richard Kny, Brooklyn.
720381. Hypodermic syringe. John N. Ranger, Evansville, Ind.
720071. Hot-air syringe. Joseph I. Richards, San Francisco.
720483. Electromedical apparatus. Granville S. Rider, New York.

The Public Service.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Feb. 14, 1903:

P. A. Surgeon E. J. Grow, detached from the *Marblehead* and directed to wait orders.

P. A. Surgeon W. L. Beli, detached from the naval hospital, Mare Island, Cal., and ordered to the *Marblehead*.

P. A. Surgeon R. W. Plummer, commissioned passed assistant surgeon, with rank of lieutenant, junior grade, from June 17, 1902.

Asst.-Surgeon R. E. Briggs, appointed assistant surgeon, with rank of lieutenant, junior grade, from Jan. 19, 1903.

Asst.-Surgeon R. L. Sutton, F. W. S. Dean, appointed assistant surgeon, with rank of lieutenant, junior grade, from Jan. 29, 1903.

A. A. Surgeon W. H. Block, ordered to the naval recruiting office, Chicago.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Feb. 12, 1903:

Surgeon G. M. Magruder, granted leave of absence for one day.

Asst.-Surgeon C. E. Decker, granted leave of absence, on account of sickness, for ten days.

Asst.-Surgeon H. B. Parker, to proceed to New Orleans, for special temporary duty.

A. A. Surgeon H. J. Hamilton, granted leave of absence, on account of sickness, for thirty days from Dec. 27, 1902; granted fifteen days' extension of leave of absence, on account of sickness, from January 27.

A. A. Surgeon H. C. Sibree, granted leave of absence for six days from February 7.

A. A. Surgeon C. F. Ulrich, granted leave of absence for twenty-five days from February 15.

Pharmacist Henry Gahn, granted leave of absence for five days from Feb. 6, 1903, under provisions of Paragraph 210 of the regulations.

RESIGNATION.

A. A. Surgeon Pedro Malaret, resigned, to take effect Jan. 31, 1903.

BOARD CONVENED.

Board convened at Washington, D. C., Feb. 9, 1903, to consider an outline plan for the marine-hospital to be erected at Savannah, Ga. Detail for the Board: Assistant Surgeon-General J. H. White, chairman; Assistant Surgeon-General L. D. Williams; Assistant Surgeon-General W. J. Pettus, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Feb. 14, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, Feb. 6, 2 cases.
California: Los Angeles, Jan. 17-24, 4 cases; Sacramento, Jan. 24-31, 4 cases; Stockton, Jan. 1-31, 10 cases.
Colorado: Denver, Jan. 17-24, 17 cases.
Illinois: Chicago, Jan. 31-Feb. 7, 16 cases; Galesburg, Jan. 24-31, 5 cases.
Indiana; Indianapolis, Jan. 17-24, 152 cases, 36 deaths.
Maine: Biddeford, Jan. 31-Feb. 7, 16 cases; Eastport, Jan. 31, 7 cases.
Maryland: Baltimore, Jan. 31-Feb. 7, 4 cases; Cumberland, Jan. 24-31, 1 case.
Massachusetts: Jan. 31-Feb. 7, Boston, 6 cases; Haverhill, 1 case; New Bedford, 1 case.
Michigan: Detroit, Jan. 24-31, 43 cases; Grand Rapids, Jan. 31-Feb. 7, 14 cases.
Missouri: St. Louis, Jan. 24-Feb. 1, 26 cases.
Nebraska: South Omaha, Jan. 1-31, 1 case.
New Jersey: Camden, Jan. 27-Feb. 3, 2 cases; Newark, Jan. 31-Feb. 7, 2 cases.
New York: New York, Jan. 31-Feb. 7, 2 cases.
Ohio: Cincinnati, Jan. 30-Feb. 6, 11 cases, 1 death; Dayton, Jan. 31-Feb. 7, 6 cases; East Liverpool, Jan. 1-31, 2 cases; Hamilton, Jan. 1-31, 5 cases; Toledo, Jan. 10-31, 19 cases.
Pennsylvania: Altoona, Jan. 31-Feb. 7, 1 case; Philadelphia, Jan. 31-Feb. 7, 33 cases, 2 deaths.
South Carolina: Greenville, Jan. 24-31, 1 case.
Utah: Salt Lake City, Jan. 24-31, 19 cases, 1 death.

SMALLPOX—FOREIGN.

Austria: Prague, Jan. 3-17, 14 cases.
Barbados: Jan. 2-16, 4 cases.
Belgium: Antwerp, Jan. 3-17, 10 cases, 3 deaths.
Brazil: Rio de Janeiro, Dec. 27-Jan. 10, 9 deaths.
Canada: Winnipeg, Jan. 1-31, 2 cases.
Canary Islands: Las Palmas, Dec. 27-Jan. 17, 31 cases, 1 death.
Germany: Altona, to Jan. 22, 11 cases, 1 death.
Great Britain: Birmingham, Jan. 17-24, 5 cases; Leeds, Jan. 10-24, 19 cases; Leith, Jan. 10-17, 2 cases; Liverpool, Jan. 17-24, 51 cases, 1 death; Nottingham, Jan. 3-10, 1 case; Sheffield, Jan. 10-24, 3 cases.
Mexico: City of Mexico, Jan. 18-25, 5 cases, 2 deaths.
Russia: Moscow, Dec. 27-Jan. 3, 1 death; Odessa, Jan. 3-17, 12 cases; St. Petersburg, Jan. 3-10, 49 cases, 6 deaths.
Straits Settlements: Singapore, Dec. 20-27, 3 deaths.
Turkey: Constantinople, Jan. 4-11, 3 deaths.

YELLOW FEVER.

Brazil: Rio de Janeiro, Dec. 27-Jan. 10, 56 deaths.
Mexico: Tampico, Jan. 18-31, 3 deaths; Vera Cruz, Jan. 24-31, 6 cases, 3 deaths.

CHOLERA—FOREIGN.

Egypt: Alexandria, Jan. 12-19, 4 cases, 3 deaths.

PLAGUE—INSULAR.

Hawaii: Honolulu, Jan. 29-30, 2 deaths.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Dec. 27-Jan. 10, 6 deaths.
Mexico: Mazatlan, to Feb. 4, 278 cases, 217 deaths.